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VOL. XXII. NO. 13

EASTERN EDITION

APRIL 1, 1899

Entered at the Post-office at Springfield, Ohio, as second-class mail matter

TERMS { 50 CENTS A YEAR
24 NUMBERS

THE FARMER AND FIGHTER OF MONTENEGRO

BY E. A. STEINER

IT WILL be hard for you to find this country on the map of Europe. If you will strike that blue spot which stands for the Adriatic sea, and follow its rocky shores to the city of Cattaro, I will call "fire," for you are near Montenegro. It is a peasant principality, one of the smallest and most interesting countries in Europe, containing a couple of thousand square miles, most of it mountainous and almost barren of vegetation. The road from Cattaro to Cetinje, the capital of Montenegro, is undoubtedly one of the finest mountain roads in the world. It was built by the Austrian government after much opposition from the Montenegrins, who justly said, "If you can come into our country with carriages, you can come in with cannons also." Until a few years ago the only way of getting into the country was by climbing up a path which looks like Jacob's ladder, and on which only goats, donkeys and natives keep from breaking their necks. Now we meet women driving heavy-laden donkeys to the market of Cattaro, both of them being the most abused beings of this country. The donkeys seem better off than the women, for they are sleek and fat, while the women are haggard, generally toothless, and far from picturesque. The whole journey is like sitting in a huge merry-go-round 5,000 feet high and about three miles wide, for every turn of the road discloses a new picture, changing in color and size as we go farther from it and as the sun is rising higher. After about five hours' constant climbing a

line of white stones tells us that we are entering Montenegro. There is neither custom-house nor guard to trouble us, and we enter what is one of the smallest, poorest, rockiest and bravest countries in the world. Montenegro is hedged in between Austria and Turkey, a mountain fastness in which 250,000 people live without a railroad or steam-engine, without any currency of their own, and without electric light or telephone; live to-day as they lived three hundred years ago, when the Turks destroyed the great Servic empire, and the flower of that country fled into these inhospitable black mountains, from which, descending rapidly, they have dealt blow after blow to their foe, the Turk, often with three hundred men holding at bay 30,000 of their enemies and utterly routing them without the loss of a single life. Never did the Turks rule them; starving among their mountains they remained free farmers, soldiers, fighters, until this day. "Ah, me, how can they live?" you exclaim. A field as large as your front yard is a rarity. They have terraced little patches of ground as large as a watering-trough; the rest is stone, stone, stone. Boulders on top of boulders, rocks on top of rocks, thousands of feet high, as far as your eye can see, with only here and there a patch of green ground to relieve the monotony. Of course, thus far they have lived more by fighting than by farming, but for twenty years there has been no war, and now with a little rye bread once in awhile and a piece of mutton nearly all the time they have to be satisfied, and on this scanty fare grow over six feet tall, as broad as a door, and as strong as an ox. Occasionally they still do a bit of border fighting, taking as a prize an innocent sheep. The first village we reach is called Nyegus;

it is the birthplace of the prince, and there is a palace where he was born. Imagine, if you can, a street filled by one-room cottages, one house exactly like the other, without a church or school-house to relieve the monotony, and in front of each mud hut a giant peasant dressed like a prince and in his belt a whole arsenal of weapons. It makes one's blood run rather cold for a moment to face such a walking fortress, but they look upon us pigmies with pride and contempt and would not waste their gunpowder on us. We venture among the peasants, and say to them, in good Servic, "Dobro yitro," which means "good-day," and they smile on us much as a giant smiles at a pigmy which he pities. This little village of Nyegus furnishes three hundred able-bodied men for war purposes, nearly every one of them over six feet tall. In front of nearly every hut hangs a mutton carcass, and it seemed as if every man in Nyegus kept a butcher-shop. I have never seen these peasants in warfare. They say they are great in fighting, but I have watched them killing a sheep, and I can say for myself that they are great in that also. It was a case of "now you see him, now you don't." The poor sheep never knew what struck it before it was hanging on an iron hook all dressed, or rather, undressed. Mutton is the chief article of food, and you can see mutton, mutton everywhere. The interior of their huts is barren of furniture or ornaments. The man carries all the wealth on his back. An outfit like the one you see in the illustration costs in the neighborhood of two or three hundred dollars, and even the poorest among them dress in such elaborate style. The field-work is done largely by the women, who, hitched

beside a donkey or a goat, draw the wooden plow across the stony fields. There is scarcely a steel plow in the whole country, and the harrows are fitted out with big thorns, which grow in profusion. By nearly every field is a stone floor, where the scant harvest is threshed out as soon as gathered. There is a legend among the peasants, which is accepted by them as gospel truth. After God created the earth he saw that it was good, all but the stones, which Satan had scattered to vex the Almighty. Whereupon the Lord sent his angel Gabriel to gather them up and cast them into the sea. So Gabriel performed his back-breaking job, filled an enormous sack with stones, and flew toward the Adriatic. But Satan, flying fast behind, cut a hole in the sack. Thereupon all the stones dropped out and fell upon poor Montenegro, and when Gabriel reached the sea the sack was empty. The fact is that the stones are here—stones of all kinds and all sizes, mountains, crags, cliffs and fields of stone—and a more desolate country cannot be seen anywhere. Yet the people seem well fed and prosperous. You never see a ragged person or a filthy one, and never a beggar crosses your path. The people are temperate, though wine is cheap and plentiful. The government of the country is very primitive. The prince is both temporal and spiritual ruler. There is a ministry, but they have little to do except to run the errands of his royal highness. The minister of finance sells you postage-stamps, the ministers of the exterior and of the interior dress up on state occasions, and that is all that is asked of them. The prince, who resides in the smallest capital of Europe, [CONCLUDED ON PAGE 6 OF THIS ISSUE]



CETINJE, THE CAPITAL OF MONTENEGRO

FARM AND FIRESIDE

PUBLISHED BY
MAST, CROWELL & KIRKPATRICKOFFICES:
147 Nassau Street, New York City
Springfield, Ohio
204 Dearborn Street, Chicago, Illinois

Subscriptions and all business letters may be addressed to "FARM AND FIRESIDE," at either one of the above-mentioned offices; letters for the Editor should be marked EDITOR.

TERMS OF SUBSCRIPTION

One Year - (24 Numbers) - 50 Cents
Six Months - (12 Numbers) - 30 Cents

The above rates include the payment of postage by ns. All subscriptions commence with the issue on press when order is received.

Subscribers receive this paper twice a month, which is twice as often as most other farm and family journals are issued.

Payment, when sent by mail, should be made in Express or Post-office Money-orders, Bank Checks or Drafts. WHEN NEITHER OF THESE CAN BE PROCURED, send the money in a registered letter. All postmasters are required to register letters whenever requested to do so. DO NOT SEND CHECKS ON BANKS IN SMALL TOWNS.

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THE "Agricultural Engineer," an English journal, in a recent number says editorially:

"In the near future farming will unquestionably have to be engineered." These words were spoken by a large and progressive farmer the other day to a representative of this journal. He is one of the numerous band of plucky Scotchmen who are following agriculture in one of the eastern counties, and in the course of a long gossip (they are 'brither Scots') our representative gathered a good deal of interesting information. To those of us who are practically acquainted with the conditions under which farming is carried on there is probably little of novelty in what can be now said as to those conditions and the difficulties to be fought with. That which is the common grievance of the eastern counties farmer—namely, the scarcity of laborers—is the universal complaint, and the farmers of the North, South and West are upon this one point absolutely unanimous. This scarcity of laborers has already reached a point which few farmers can afford to regard with equanimity, and year by year the difficulty increases and is more keenly felt. It is not within the province of this article to discuss the causes or to attempt to trace the reasons responsible for this shortage in the supply of labor. We recognize the fact, and with our friend whose words we have quoted we find nothing more practical than to turn our attention to the 'near future'—to that future when 'farming will have to be engineered.'

"Necessity is not only the mother of invention; she is something more. The prime concern of the farmer of arable land is the tillage of the soil and the gathering in of its products. If laborers cannot be found at the proper time and in the required number, what must be done? Are the crops to be allowed to rot in the fields, and the land to go out of cultivation, to swell the already too long list of derelict farms? If not—and but one answer is admissible—the question of labor must be more intelligently considered, and manual labor, with its uncertainties and its worries, must be replaced as far as possible by machinery. This is the only recourse—'farming will unquestionably have to be engineered.' That is to say that the successful farmer of the future will be the

one who avails himself to the fullest extent of the labor-saving, labor-obviating machines which our agricultural engineers produce for their use. The battles of to-day are fought and won more by the products of engineering skill than by mere numerical strength, and the battles of modern farming also must be fought with the means the engineer provides, without reliance upon mere manual labor. Ever recurring harvest-time enforces the truth of what we have written, and when we say that a drastic change in farm methods is an absolute necessity we are stating what every large farmer knows to be true. Our agricultural engineers, too, recognize this, and are ready to meet the farmers' needs by supplying the required machinery."

It is the man behind the machine that has made our own country the leader in agricultural products. "One hand in the prairie states," says Mulhall, "raises as much food as five can do in the most advanced countries of Europe, and this is evidently due in a great measure to the use of improved agricultural machinery, for it is a strange fact that the reaping-hook is still seen in parts of England, France and Germany.

"The foremost state in food production," he also says, "is Iowa, with an average of five tons of grain and five hundred pounds of meat per inhabitant, her grain crop being larger than that of Italy or Spain, although her population is only two million souls."

Never in the history of mankind, and nowhere else in the world, have the tillers of the soil been able to turn out anywhere near the product of the American farmer. Inventive genius makes and improves agricultural machines, but of what use would they be on a farm without a man of brains and skill—an agricultural engineer—to run them? American farming is engineered, and its product, colossal when compared with that of Europe, is the result. But it is evident that the near future will demand more and better agricultural engineering than we have ever had in the past. The farm-labor problem here may be different from that in Great Britain, but the solution is the same—the man behind the machine.

IN THE "North American Review" for March Mr. Boulger in an interesting article on the "Dissolution of the Chinese Empire" says:

"However slow or intermittent the process may prove, there is no longer any reason for doubting that the dissolution of the Chinese empire is inevitable, and that in the least changeable land of 'the changeless East' a new constitution, a new method of maintaining political life, as it were, has to be devised or discovered. China, unlike Japan, has put off the reform of her own house so long that the chance of executing it in her own manner, and without losing independence of action, has passed away irrevocably, while the problem itself, as to how the three or four hundred millions of the Chinese race are to be brought into line with the rest of humanity, has been rendered more difficult by international competition, and by the acute stage to which that competition has been brought through the consequences of the Japanese war.

"Five great powers are already in occupation of portions of Chinese territory, and it is notorious that the points acquired are regarded chiefly as bases from which further aggressions may be committed, or zones, more or less exclusive, of commercial and mining rights secured. If there were any indications of vigor in Chinese life, or even of the possession of that fatalistic courage which obtained for Turkey the other day a fresh period of existence, the presence of aspiring inheritors of the Middle Kingdom at the door of the death-chamber would not matter, because it would not hasten the fatal moment. But under the actual circumstances it is different. It is not merely that what has been taken has whetted the appetite for more, but that the ability to strike quickly when reparation has to be obtained for the hostility of Chinese mobs, the perversity of the mandarins, and even the sluggishness of the central government, has brought into vogue new methods of diplomacy that must accelerate the process by which China will gradually break into pieces. The murder of a missionary or a merchant in a remote province entirely beyond the control of the central government may now well entail the loss of a whole province, and hasten the arrival of the general cataclysm.

"As to how the dissolution of China will

be effected, or among whom the immense carcass of the moribund empire will be divided, it is too soon to speak; but I have thought it right to place at the front of this article the main conclusion to which my study of the question has led me, and that the dissolution of the Chinese empire is inevitable, and not remote. It is from that point of view that I would ask the American public to consider this great question of our far East, which they are now for the first time seriously approaching from their far West, and with regard to which they cannot help being an important and perhaps a deciding factor."

Within the short time since the article was prepared there has been another important move toward the end predicted. The demand of Italy, indorsed by Great Britain, for a concession at San Mun has made the Chinese question the foremost one of the day. The "Spectator" (London) says: "Was there ever such a spectacle seen before as China now presents? The rulers of the vast empire are parting bit by bit with all sovereign rights over their own coasts, and are obtaining nothing for them—not even exemption from further demands. . . . Europe is breaking up the ancient civilization of a fourth of the human race without even attempting to provide a substitute."

The policy favored by the United States, as necessary to its commercial interests in China, is the policy of the open door. It is the same policy established by the United States in the Philippines. Imports from all nations pay the same duties, no discrimination against or preference for the goods of any nation being allowed.

In concluding his article Mr. Boulger suggests a broader policy. He says that the dissolution of the Chinese empire, if we are wise and vigilant, need not prove more than temporary—a passing episode in the life of the oldest state in the world. "The object of Americans and Englishmen should remain as long as possible the saving of China from foreign annexation. Let it break in pieces if it must, but let each of us preserve the fragments, so that in time some true Chinese reformer and leader may rivet them together once more. That will be an honorable and safe policy."

THE vice-president of a large life insurance association recently sent to the leading financiers of the country a letter asking, "What rate of interest do you consider it safe for a life insurance company to count upon realizing, on its total assets, invested in such securities and mortgages as an institution of this kind should hold, during the next twenty years?"

The consensus of opinion in the answers from financiers, railroad presidents, merchants, political economists and others is that three per cent is the rate upon which it is believed that life insurance associations and trust companies may safely base their calculations for the future.

Some life insurance associations have already placed their reserve on a three-per cent basis, and a number of others are preparing to do so. The enormous amount held by these associations to the credit of their policy-holders must be safely invested, and state laws restrict the investment of such trust funds to what are considered the safest forms, which, of course, bear a lower rate of interest than the ordinary investments with greater risks. Among the investments considered safest is good real estate. As this includes farm property, there is now an opportunity for refunding farm loans at a lower rate of interest than they have been bearing.

IN "Harper's" for March Senator Lodge concludes his second article on the Spanish-American war with a comparison of Admiral Dewey's victory at Manila with that of Lord Nelson at Aboukir, the greatest naval action in history where the victor came down upon his enemy anchored in a harbor.

"Both Dewey and Nelson," says Senator Lodge, "hunted down the enemy and fought him at anchor where they found him. Nelson entered an open roadstead by daylight, began his action at sunset, and fought on in the darkness. Dewey ran past powerful entrance forts, up a deep bay in darkness, and fought his battle in daylight. Neither took the enemy by surprise, for Admiral Montejó's report shows that he had tried Subig bay and given it up, and had then made every preparation possible to meet the

Americans at Cavite under the shelter of the batteries. Nelson practically destroyed the French fleet, but Admiral Villeneuve escaped the next morning, with two ships of the line and two frigates, and there was only one English ship, the Zealous, not enough for the purpose, in condition to follow them. Dewey absolutely destroyed every Spanish ship, including the transport Mindanao, and captured the other transport, the Manila. He silenced all the land batteries, and took Cavite. Aboukir had its messengers of death in the escaping French ships; Manila had none. Absolute completeness like this cannot be surpassed.

"The Spaniards admitted a loss of six hundred and thirty-four killed and wounded in ships and forts, while the Americans had none killed and only eight wounded, all on the Baltimore. The American ships were hit several times, but not one was seriously injured, much less disabled. This has been attributed to the extremely bad marksmanship of the Spaniards, and has been used to explain Dewey's victory. It is easy to exaggerate the badness of the Spanish gunnery. They seem, as a matter of fact, to have shot well enough until the Americans opened upon them. The shells which struck the Baltimore effectively were both fired before that ship replied in the second round. But when the American fire began, it was delivered with such volume, precision and concentration that the Spanish fire was actually smothered, and became wholly wild and ineffective.

"The great secret of the victory was the deadly accuracy and rapidity of the American gunners, which has always been characteristic of the American navy, as was shown in the frigate duels of 1812, of which the United States won against England, eleven out of thirteen. This great quality was not accidental, but due to skill, practice and national aptitude. In addition to this traditional skill was the genius of the commander, backed by the fighting capacity of his captains and his crews. True to the great principle of Nelson and Farragut, Dewey went straight after his enemy, to fight the hostile fleet wherever found. In the darkness he went boldly into an unfamiliar harbor, past powerful batteries whose strength his best information had magnified, over mine fields, the extent and danger of which he did not and could not know. As soon as the dawn came he fell upon the Spanish fleet, supported as it was by shore batteries, and utterly destroyed it. The Spanish empire in the East crumbled before his guns, and the great city and harbor of Manila fell helplessly into his hands.

"All this was done without the loss of a man or serious injury to a ship. The most rigid inspection fails to discover a mistake. There can be nothing better than the perfection of workmanship, and this Dewey and his officers and men showed. The completeness of the result, which is the final test, gives Manila a great place in the history of naval battles, and writes the name of George Dewey high up among the greatest of victorious admirals."

REVIEWING the treasury statistics of circulation for the month of February, "Bradstreet's" says:

"The total amount of money in circulation shows an increase of over \$202,000,000 as compared with the corresponding date last year. On the basis of a population estimated by the treasury experts at 75,601,000, the circulation per head of population is placed at \$25.51. This represents an increase of nine cents for the month, and of \$2.18 as compared with the corresponding date last year. An increase of over \$200,000,000 in the total amount of money in circulation, and of over \$2 per head of population as compared with the corresponding date a year ago, indicate a very remarkable expansion indeed in the volume of the circulating medium for a period of twelve months. The showing is of a nature to confound the financial theorists who prophesied a contraction of the circulating medium as the result of the maintenance of the existing gold standard. What seems to be shown by the statistics is that when there is no question as to what the standard is, and the value of currency remains undisturbed by speculations as to what may be the result of new legislative enactments, it flows in abundance in the ordinary channels of exchange. In this condition the United States has remained for the last two years, and one of the results may be seen in the unchecked enlargement of the circulating medium."



ABOUT RURAL AFFAIRS

The Onion-set Business

I have been quite anxious to find out something definite about the extent and profitableness of the business of growing onion-sets in the United States, and have recently sent inquiries about it to a number of growers and dealers, but without being able to secure satisfactory replies. One of the largest growers, a Pennsylvania man, writes me that it does not pay to grow onion-sets at the prices received by the growers for their crops during the past three years; that the business has been overdone, and the growers are looking for some new way to dig money out of the ground. I do not know how near this hits the truth. I thought I had to pay pretty good prices for onion-sets last spring, and I am prepared to pay such prices again this spring. Sometimes it seems to me that a large number of the onion-set producers, like many of the mushroom-growers, and like one of the largest and most successful broiler-raisers in New Jersey, try to "keep mum," refusing to give any information whatever about the details of their business. If I am mistaken in this view I hope that some of those who grow sets largely and successfully, and who make money by it, will tell us some of the essential points, and statistics, too, relating to the business. Possibly, however, the onion-set producers may have met with an experience similar to mine when I tried to go a little more extensively into the pickling-onion business. Demand was not what I had expected, and prices had considerably fallen, so that I feel as my first-mentioned informant reported of the set-growers in his vicinity—that it be time to contract rather than expand. I shall grow Barletta onions this year only to the limit of the expected retail trade. But let us hear from prominent set-growers.

Some Points from the Stations

There has been no lack of literature published by the experiment stations. Every few days I have been in receipt of one or more of their bulletins, and some of these offer quite valuable and interesting points and suggestions. The New York state experiment station continues to send out condensed bulletins, or what they call their "popular edition." It is a good idea, only not as well executed as I had hoped. They usually make rather dry reading. It should be more breezy, more newsy, to become popular.

Some Good Berries

The December bulletin (No. 147) of the New York station at Geneva speaks of some of the berry varieties which have been tested at the station and have been found more or less worthy of general trial. The soil on which these tests were made on the station grounds is a stiff clay loam, and claimed to be unfavorable to the growth of strawberries. I am not so sure about this. During my occasional visits at the grounds I found nice plants, thrifty foliage and apparently good fruit and good yields. What better can any one wish for than a yield of over 10,000 pounds (5,000 quarts), as claimed for Stahelin, a good early berry, and for Anlo, a midseason variety, under ordinarily good culture? Sample, another midseason sort, and perhaps better known because more largely advertised, gave nearly 8,500 pounds of fruit to the acre. Earliest, a berry of fair size, good quality and moderately firm, produced seventy-one per cent of its crop before beginning of midseason, but gave a very light yield (only 2,430 pounds to the acre). Perhaps all extra early sorts are light bearers. Surely Michel's Early is so. And besides, most of them are imperfect bloomers, and should be planted by the side of standard staminate (perfect flowering) varieties like Beder Wood, Sharpless, or even the old Wilson.

It seems to me that so long as we can raise 5,000 quarts of strawberries to the acre there is a chance to make some money in the business. I sold most of my surplus last year for eight cents a quart. Even at six cents the 5,000 quarts would bring \$300, a nice income from an acre, and surely much more than the average grower gets from his strawberry-patches. I just had a letter from a reader in Ohio, asking me to name the variety best suited to his locality and a good home market berry. He wants to set

3,000 to 4,000 plants this spring. Of course, I cannot tell. I plant largely of Bubach, Warfield, Haverland, and use Beder Wood, Splendid and Wilson to furnish the pollen. Other berries might be better suited to our friend's environments. Let him ask the Ohio station, at Wooster, and also any reliable grower of berries and plants in his own vicinity, such as, for instance, Mr. Mathew Crawford, of Cuyahoga county, Ohio. Also try the varieties recommended for trial by the New York state station. The only ones among the very early kinds which I have grown thus far are Michel and Earliest, but both have given me so little fruit that I do not consider them profitable.

The New York station finds the red raspberries more prolific than the blackcaps. That is my experience also. Pioneer (black) yielded 7,550 pounds to the acre; Palmer (black), 7,080 pounds, while Loudon, a good midseason red, gave 8,280 pounds of fruit. I have Marlboro, an early red, and Cuthbert, a late one. The former yields lightly; the latter is with me an enormous cropper, of course, under high cultivation. I think it yielded with me nearly as many quarts as the Loudon is reported to have yielded pounds, and as I sold all my surplus at eight cents a quart there was surely a good profit. Among blackberries the station names Agawan and Ancient Briton as satisfactory sorts for hardness and productiveness. I have a high opinion of them, although the fruit is not as large as that of Minnewaski, Kittatinny, Erie, etc. Early King is named as a satisfactory early berry. I have known this for nearly ten years, and often wondered why so good a fruit was not better known or more popular. It is very early, and the berry itself seems to be about as sweet as our best mild sorts when fully ripe. I can confidently recommend it for trial.

Much interest has been aroused in those newer introductions, the Loganberry and the strawberry-raspberry. According to the station report the Loganberry resembles "a long, large-grained red blackberry, with a distinct raspberry flavor. In cane growth it resembles the dewberry, requiring support. It is too tender for wintering without good protection in this climate, and it is not very productive, as the berries grow singly and in loose clusters. It is, however, more promising and interesting than the so-called 'strawberry-raspberry,' which has proven utterly worthless on the station grounds." I have specimens of both fruits on my grounds, and of the Japanese Golden Mayberry also; but would not miss much, I think, if I were to lose every plant of all three. The Loganberry is the only one which makes some sort of satisfactory growth, and gives a promise of fruit enough for a good taste.

The Place for Flowers

Some excellent pointers on the subject of making the farmer's home pleasant and the farmer's family happy are given in a bulletin on "Annual Flowers," issued by the Cornell University experiment station. "Great numbers of farmers earn enough as it is," says Prof. Bailey in this bulletin, "but they do not have the knack of doing things with the greatest economy of time and effort, and farm homes are not often designed to afford greatest pleasure and comfort of living. Every person should know the great fact that the most successful life is the happiest one, and that the happiest one is that in which the common and little things awaken the greatest number of mental impressions. . . . If one derives pleasure from a daisy, a hill of potatoes and a pigweed, then each of these plants are practical and worth the growing. Like or dislike of the farm is often, and probably generally, formed before the child is old enough to be influenced by the profit and loss side of farming. A pleasant and happy home is the very first means of keeping the boy on the farm. One means of making the home attractive is to brighten the place with flowers."

Prof. Bailey also tells of the two purposes for which flowers are chiefly grown; namely, either as decorations or for their own sake. If used as decorations annual flowers may

be thrown in freely about the borders of a place, not in beds in the center of the lawn. In front of bushes, in the corner of the steps, against the foundation of the residence or outhouse, along a fence or a walk—these are places for flowers. A single petunia-plant against a background of foliage is worth a dozen similar plants in the center of the lawn. Too many flowers make a place overgaudy. Too much paint may spoil the effect of a good building. The decoration of a yard, as of a house, should be dainty. . . . A dash of color gives spirit and character to the brook or pond, to the ledge of rocks, to the old stumps or to the pile of rubbish. But if one wants a flower-garden, that is a different matter. One may want flowers for the flowers' sake. Then have the flower-garden at one side of the residence or at the rear. Don't spoil a good lawn even with flowers. The following are named as staple or general-purpose types of annuals both for decorative use and for flowers: Petunias, phloxes, pinks or dianthus, larkspurs, calliopsis, or coreopsis, pot-marigold, batchelor's-buttons, clarkias, zinnias, marigolds, poppies, China asters, verbenas, sweet-peas, portulacas, candytufts, alyssum, stocks, morning-glories and nasturtiums. Of course, you can make a fine show even with half a dozen kinds of flowers. But there should be some display of flowers even on the humblest farm home. It will pay in more than one respect.

T. GREINER.

SALIENT FARM NOTES

Apple Varieties

A. N. S., Missouri, writes: "I want to plant five apple-trees, five varieties. What would you plant?" I would plant one Early Colton, one Duchess of Oldenburg, one Grimes' Golden, one Gano and one Jonathan.

Early Colton is a better apple than the old Early Harvest, does not scab so badly, and is not so mushy. Tree bears young and regularly. Taken altogether it is a very good early apple. The old Duchess is too well known to need a minute description. The tree is a strong and vigorous grower and an early bearer. The fruit is quite acid—too acid for a dessert apple, but it is a fine cooker. Cooks well a month before it is ripe and makes nice sauce. If I planted but two trees one of them should be a Duchess. The Grimes' Golden is about the finest dessert apple I know. It is a bright golden yellow in color, and the flavor is rich, spicy and aromatic. The tree is a good grower and bears moderately early. If I was limited to two trees, one of them would be Grimes' Golden. The Gano is somewhat better flavored than Ben Davis, not quite so large, perhaps, but a better color. The quality is fair and it keeps well until late in spring. Tree is a good grower and an early bearer. If the soil is deep and rich, I would rather plant Rome Beauty than Gano because it is a much better apple. It is very good in early winter, but loses its fine flavor by mid-winter, generally. When well grown it is a large apple of very fine color, but the tree is inclined to overbear, and then the fruit runs small and poor. The Jonathan is an excellent early winter apple. The tree is a moderate grower, rather straggling and crooked when very young. The fruit is medium size, fine color, rich and juicy. It must be picked rather early or it will fall. Both Jonathan and Rome Beauty should be picked as soon as the seeds are brown.

Gooseberry and Currant Bushes

J. M., Iowa, and several others desire to know the best location for gooseberry and currant bushes. The best place I have found for gooseberries is the north side of a fence, or along any fence where they will be partially shaded from the hot sun. They should be pruned, so that they will not reach very far from the fence. The pruning will do the bushes good and make the berries larger. Plant currants where they will be sheltered from the afternoon sun. Along the east side of the garden fence, or any other fence, is the place for currants. Keep the soil rich and clean and the bushes well thinned out if you want fine, large fruit.

Four Fruits and Rhubarb

There are four kinds of fruit that every farmer can have and should have on his farm. They are easily cared for, and with a little manure applied about them once a year they will yield abundantly and make the heart of the housewife glad many a time. These four fruits are gooseberries, currants, grapes and raspberries. And I will add one more thing, that while not exactly a fruit, yet in its season it comes very near being one; and that is rhubarb.

With rhubarb to begin with in the early spring and lasting until gooseberries make good pies and sauce, followed by currants, and then raspberries, with grapes in the fullness of summer, one is rarely at a loss for nice dessert material.

These things are so cheap and so easily managed that there exists no reason under the sun why every farmer should not have an abundance of them. All of them can be grown close by the fences so that they take up no room to speak of—none, at least, that can well be used for any other purpose. Sometimes the currant-worm strips currant and gooseberry bushes of their leaves just before the fruit becomes large enough to pick, but they are easily destroyed with white hellebore, one ounce to two gallons of water. It should be sprayed on the bushes as soon as the worms begin to eat the leaves, and the best implement to do it with is the little sprayers sold by most seedsmen at seventy-five cents to a dollar. They force the water and poison out of a can attached to the end of a tube, in a fine mist, and a large number of bushes can be thoroughly sprayed in a very short time. Hellebore is a mild vegetable poison, and used in the proportion mentioned above is entirely safe. It destroys the slugs in short order, and a light rain will wash off all that may adhere to the fruit. With a remedy so simple, cheap, effective and so easily applied it is foolishness to allow the bushes to be stripped of their leaves by this pest.

These little sprayers are one of the best things in the world for applying Paris green or London purple to potato-vines. The can holds about a pint, and it is blown out in such a fine spray that one canful will spray five hundred to eight hundred plants, or as many as two bucketfuls will dampen when applied with a common sprinkler. Every man who grows potatoes should procure one of these useful little tools. With it he can spray his potato-vines so easily and quickly that he will want to do it again, and the beetles will have no chance to do any harm.

Changing Location

A. R., Oregon, writes me that the damp weather they have in that state during the winter months does not agree with him, and he wants to know whether I think Oklahoma would suit him better.

I don't know. Oklahoma seems to suit some people first-rate, and others seem to be well pleased with Oregon. Some people think Georgia is next to paradise, while others think Minnesota beats it out of sight. It is a good thing there are many men of many minds, because we have a country with all sorts of climate and all sorts of soils, and if a person doesn't like one kind he can soon get into another and still be with us. I never advise any person to move from one section to another unless his health will be benefited thereby. Some people spend their whole lives in moving from one section to another seeking for a land flowing with milk and honey, but they never find it. A rolling stone gathers no moss, neither does a moving man accumulate any wealth. We are constantly hearing of the immense advantages this or that section has over all the rest of the world, but close investigation soon discloses the fact there is a party tooting the siren horn for revenue only. Beware of the song of the boomer, and harken not to the plaint of the croaker, who is constantly disparaging the locality he lives in.

To the many young men who have written me that they are desirous of leaving the places they now occupy and seeking employment in the newer sections of the country let me say, don't do it! If you are doing even fairly well where you now are stick to your job. The cities are full of men seeking employment, and I am told many of the newer sections are also well supplied with men. If wages are very low and work very scarce where you are it might be advisable to go elsewhere, if you are a first-class workman. Don't take less than \$100 with you, then you will be able to live respectably until you procure employment.

FRED GRUNDY.

Plowing Among Rocks.—In many sections more or less rock is to be found in the soil, and frequently the plow goes up against an old stager with a shock, and something breaks. Where plowing is to be done on rocky land, a strong draft spring between the beam and the whiffletree is recommended.

GUY E. MITCHELL.

OUR FARM

FARM THEORY AND PRACTICE

THE FARM ORCHARD.—It is the rule, and not the exception, that the two, three or five acres of orchard on the farm do not receive the attention that is given an equal area devoted to the growing of vegetables or grain. The orchard is often, possibly usually, allowed to shift for itself, and gives very poor returns in comparison with its possibilities. Pruning is neglected for years, and then undertaken heroically, the surplus wood in the form of large limbs being cut out with ax and saw. The borer works unmolested, killing some trees and crippling others; a sod of grass takes the fertility and moisture needed by the trees; there is no spraying to kill the apple-worm and the scab, and luck is trusted for a crop of apples. This picture may seem overdrawn for your locality, my reader, but it is not for the average farm orchard of this country.

THICK SETTING OF TREES.—The first common mistake is to set the trees too close, preventing the proper development of the trees and the entrance of sunlight for the killing of fungi and the coloring of the fruit. The fruit-tree agent, of whom it has been aptly said that "he is here to-day, gone to-morrow, and the future knoweth him not," wants to sell as many trees as possible, and urges crowding, very often. The proper distance depends upon the soil and the variety of tree; but it should be so great that the foliage of the full-grown tree cannot touch that of its neighbor. Several feet of sunlight and air should be between the tops of the trees. Otherwise limbs will die, fungous diseases will be fostered, the fruit will not get a high color, and the spraying-machine cannot be used. In strong soil the distance should be thirty-five to forty feet; in poor soils two rods.

ABOUT PRUNING.—If the owner of the tree has in his mind the form he wants the tree to assume when grown no severe pruning should ever be necessary. The unnecessary limbs can be removed when small. When setting the tree it is often best to prune to a whip, reducing the top to correspond with the root, which has been severely pruned in removal from the nursery row. Head the tree sufficiently high to permit cultivation with horses beneath it. If it is necessary to remove any large limbs when the tree is nearly grown, do so with a saw, making a neat cut, and the next day apply paint to exclude the air. It will not usually stick until the wound dries. Prune in the winter if wood growth is needed, and prune in summer to get more fruit. By summer pruning the sap is thrown into the buds for the coming year, converting many leaf-buds into fruit-buds.

FERTILIZATION.—Apple and other fruit trees make a heavy draft upon the soil, and the orchard needs applications of plant-food, usually phosphoric acid and potash. If the wood growth is poor, barn-yard manure is needed, it being rich in nitrogen, which makes wood. If the growth of wood is sufficient, then the fertilizer needed is usually phosphoric acid and potash, which make fruit. The muriate is a desirable form of potash for an orchard, and is a cheap form. Acidulated rock furnishes cheap phosphoric acid. Hard-wood ashes are a valuable source of potash for the orchard, furnishing the potash in an effective form, and adding a little phosphoric acid and lime as well. The orchard that does not make an abundance of new wood each season should not be in sod, as the grass is a robber of fertility and moisture. The trees must have plant-food just like other plants.

CULTIVATING AN OLD ORCHARD.—The young orchard should be cultivated every season. Potatoes or other such crop, well fertilized, may be grown. But the old orchard that has been in sod for a long time may be badly injured by having the sod broken for a crop. The trouble is that the tiny feeding roots of the tree, nearly smothered by the sod, turn up to the surface for air, and may be found within two or three inches of the surface. The reader may verify this statement by removing a little of the old sod ten or twelve feet from the trunk of the tree, where he will find the feeders turned up nearly to the surface. If the ground had been properly cultivated every year these

feeders would have been down where they belong. As it is, a deep plowing cuts the feeders off, and the trees are injured and often die prematurely. The safest course with such an orchard is to scratch and cut the sod with a sharp spike-tooth harrow, doing this work thoroughly. In this way the sod can be partially destroyed and air and light enter the soil, so that rootlets can grow farther beneath the surface. Then apply potash and phosphoric acid, also giving the ground a coat of stable manure if the trees are not thrifty. The fertilizers of all sorts should not be dumped around the base of the tree, but the heaviest applications should be made directly under the tips of the branches. A circle where the drip comes from the outside branches in a summer shower marks the place of the best feeding roots, and here the fertilizer is needed most. The use of the harrow from spring until midsummer each season, with proper fertilization, will do much to restore an old orchard that has stood in a sod for many years.

THE APPLE-BORER.—This enemy of the orchardist does serious injury to neglected trees. The washes and other alleged preventives are not a safeguard against attack. Old bark should be scraped off, rubbish should be kept away from the base of the tree, lye used to keep the bark smooth, and all done to make the base of the tree uninviting to the beetle that deposits the eggs and likes a good hiding-place for her young. But the chief dependence must be placed upon a watchful eye, a sharp knife and a piece of pliable wire. When the castings are seen, the thing to do is to go after the fellow making them. The first year of his life he remains near the surface of the trunk, but later penetrates the hard wood at the center. When the soft wire follows him up and mashes him in his home the work is rightly done, and only then. A preventive, excepting possibly a piece of wire screen or tarred paper, has never been found.

A RED APPLE.—The market demands a highly colored apple free from scab. By spraying with fungicides and insecticides we can have fruit that is fairly clean from the scab and apple-worm, but the color depends upon the variety and the sunlight. No variety will be pleasing in appearance unless the sunlight can reach and color it. Quality to-day is secondary in importance to appearance in the world's markets. Generally speaking, the people want a red apple. It is for this reason that the Ben Davis is a profitable apple where it does well, the quality being far from first-class. The York Imperial is gaining friends fast, the trees being early bearers and productive and the fruit being highly colored and a good keeper. The quality is superior to that of Ben Davis, but inferior to that of the Northern Spy, King or Baldwin, which are always excellent. The three varieties last mentioned require comparatively high latitudes or elevations, especially the Spy. The King is usually not a long-lived tree. For commercial purposes in a belt extending from Missouri to Pennsylvania probably the Ben Davis, York Imperial and possibly the Rome Beauty are the leading profitable apples, with the Baldwin on the northern border of the belt and the Spy at high elevations. For home use and good local markets the list is different, excluding those lacking quality, and much longer. Just so long as appearance does much in selling fruit the highest quality will not be the first consideration with the producer. He must supply that which the market demands.

DAVID.

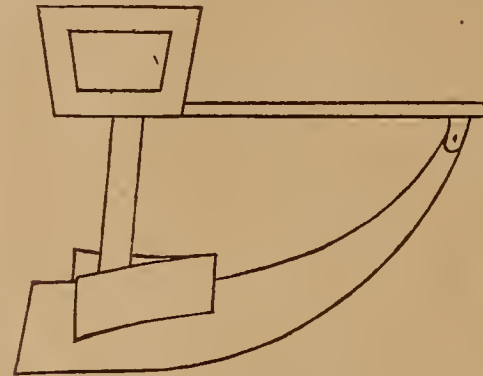
RECENT METHODS OF CORN-GROWING

Sometimes farmers are confused by practicing methods unsuited to their conditions. Since my soil is rather heavy clay and underlaid with hard yellow soil, it is not urged that the suggestions in this article be followed on light, gravelly land. They might show good results on such soil, but since I have never farmed light soils in the manner to be indicated the reader must use his judgment in adopting or modifying the experience which has been derived from the conditions mentioned.

Deep plowing succeeds better with me than shallow, though I have tried both. But there seems to be a limit where deep plowing is practicable. It is possible to bury sods and manure too far beneath the surface. On the other hand, it was very desirable to loosen the hard under-soil both for the sake of drainage and plant growth. This induced me to buy a subsoil-plow, and my practice is to plow seven inches deep

and stir the subsoil six inches deeper. My experience with subsoiling the first year was not altogether favorable. The plow could not be bought from local dealers and it had to be shipped from a distant manufactory. The season was well advanced before it arrived, consequently the subsoiling that year was done late in April and early in May. There was no rainfall, and before planting the soil dried nearly a foot deep. Since the moisture was deficient throughout the season this drawback was never overcome. I do not subsoil all the corn ground each spring, but about as much ground as can be turned the first half of the plowing season. Then I follow the plow closely with a spike-harrow, unless the weather is showery. This breaks the clods on the surface and seals the interstices between the furrows so that evaporation is hindered.

My ground for corn is mostly clover sod. If it has been tramped by the stock it is wise to harrow it immediately after plowing and reduce the clods while they are tender. There is very little danger of the soil baking just after it has been subsoiled. About all the preparation this soil needs before



WING ATTACHMENT TO PLANTER FURROWER

planting is to go over it twice with a disk-harrow. I use four horses, and overlap each width half way. This leaves the surface free from ridges. There may be a few clods on the surface, but no matter.

Those who plow their soil four inches deep maintain that the seed can be placed nearer the decaying vegetation at the bottom of the furrows than is possible where deep plowing is practised. Thus, seed planted two inches beneath the surface will be two inches from the bottom of the plowed furrows. If in the usual way we should undertake to plant corn two inches from the bottom of the plowed furrows, the grains would be five inches below the surface. This would be too deep in such soil as mine. There is a way to plant about four and one half inches deep and yet have the seed but two inches from the top. This is accomplished by attaching wings to the furrowers of the planter in the manner shown in the accompanying illustration.

These wings open a track or shallow trench the width of the planter wheels. They push out of the way all clods, stones, sticks and litter. No matter how rough the surface may be, they will make a smooth track of friable, moist soil for the planter to travel upon, or rather, in. The wings are adjustable for different depths of planting, and form a most satisfactory regulation. No matter how deep the furrow may be, the depth of planting will be the same. The advantage of dropping the seed in loose, moist soil at uniform depth is apparent.

A planter with this attachment does the best work when following a disk-harrow. I drill all my corn. A disk-harrow is started in the field, and a little later the planter is started. A planter operated with checker-row can be used alongside the disk-harrow in like manner.

As is well known, the planting season is all too short for the farmer who grows a considerable acreage of corn. It is worth dollars to the farmer to have his corn planted at the right time. This method makes it possible to plant the corn in the best condition and in the shortest order.

Ordinarily there is some rain within a few days after the crop is planted. The surface having been loosened by the disk-harrow, it will yield wonderfully under the roller after a shower. As soon as the corn-plants are well through the ground, go over the surface with a weeder. These two operations do much to fill the planter furrows. Once the plant is through the ground the depth of the furrow is no consideration. In fact, I have observed some advantage therefrom. It is not difficult to keep the field free from weeds. The past year I kept a field of old ground entirely free from weeds (except the notorious bindweed), thus overcoming an objection against planting corn in drills.

I have found no difficulty from water washing in the planter furrows or standing in them. The elevations at the sides prevent the entrance of water into the furrows. Then, also, land which has been subsoiled will not wash very badly. Any implement-dealer should be able to order the furrower attachment described.

This method of corn-planting has enabled me to grow better crops and with less expense than before. The deeper tilth has improved the drainage and has allowed the clover roots to push deeper. Cultivation of the corn has been deep at first and shallow at the last.

ROBERT L. DEAN.

ROOTS FOR THE DAIRY

Many farmers are now making their plans for this year's crops, deciding area and location of each. Wherever a few cows are kept for milk or butter it would be well to consider the advisability of growing a few roots. A ton of roots does not have as large a food value as most feeds we might mention, but it furnishes a succulence which cannot be obtained in winter from any other food except silage. Silage requires equipment in the way of silo and cutting machinery which is not available to the man with a small herd. Roots may be grown on any good loam soil, and will yield a profitable return in feed for labor expended.

At the Indiana station mangels were grown at a labor cost of \$1.07 a ton. This included plowing, fitting, planting, weeding, cultivating and harvesting. The variety which made the largest yield and was easiest to remove from the ground and handle to and from the wagon was the Giant Yellow Intermediate. It grows well out of the ground. The neck of the largest mangels of this variety were small enough to be grasped and picked up conveniently with one hand. This is a large saving in time over the varieties which are so large and round like a ball that they must be fumbled to get a good hold, or possibly use two hands. The Mammoth Long Red mangel is a good handler, but last season did not yield as well as the Giant Yellow Intermediate. Four varieties varied in yield from sixteen to twenty-five tons to the acre.

Plant in rows from eighteen to thirty inches apart, depending upon the man and horse which must cultivate them. Sow at the rate of six pounds to the acre. A good stand of plants will permit cutting out with a hoe all but a bunch every eight inches, then these should be thinned with the hand, leaving only the strongest plant of the bunch. It is especially desirable that this thinning be well done. Where two plants are left together neither makes a good growth in size or shape.

Care should be taken not to allow the weeds to get started ahead of the mangels. Keep the ground loose by means of cultivation. A spike-tooth cultivator or a weeder works nicely until the plants are large enough to use a Planet Jr. A chain dragging behind leaves the ground in very nice condition.

H. E. VAN NORMAN.

RURAL NOTES

A Georgia farmer reports a very successful experiment in irrigation. He uses a four-horse power gasoline-engine with pump, delivering forty thousand gallons of water a day, at a maximum elevation of sixty-two feet. The engine requires no more care than can be given by one man and a boy. About five gallons of gasoline, costing ten cents a gallon, is used daily, making a cost of about 50 cents a day. The engine cost \$210. He uses five hundred feet of pipe. The total cost of the outlay was \$400. The cost of running the engine during the six weeks of berry-picking is about \$24. Add to this the cost of the man and boy for running the engine, and you make your total annual outlay \$84. There are hundreds of farmers and fruit-growers who lose five times this amount from lack of any possible remedy.

How large a share in the public highway has the public itself? That is, what has the general public to say about the cutting down of the trees that shade the traveler and his team? This point ought to be settled, and settled definitely. Time and again we find splendid shade-trees cut down by the occupants or owners of the adjacent soil, and turned into fire-wood. In other cases the street trees are trimmed up so high that they are utterly useless merely as shade-trees. Of course, these people have no right to meddle with street trees, but it is seldom that such meddling is checked by enforcement of law.

E. P. POWELL.

NOTES FROM GARDEN AND FIELD

EARLY TOMATOES.—I had no idea that there are so many new tomatoes now offered as "the earliest of all." The number of which I have secured seed is large already, and daily growing. Once more I shall try to find some really early variety that is as good otherwise as our standard later tomatoes, these latter now having been brought to a high state of perfection. But no matter what variety we do try to grow, we cannot expect to have tomatoes in July unless we start the plants very early, and transfer them, then already in bloom or with fruit set, to open ground in such a way that they will receive no check, but grow right along. I am not an advocate of setting the plants in open field so early that they may yet be touched by a little spring frost. If I have each plant by itself, and give it lots of room, the plants will do better under glass, or at least in a bed where they can be protected during cold nights, than in open ground. I would hardly know, however, how to manage my early tomatoes without the wooden plant-boxes which I have several times mentioned in these columns. The only trouble with plants under glass, when I wish to hold them for setting out until nearly first of June, is that the soil in the bottom of the boxes is often allowed to become almost dust dry. I water from the top, and water often, but not near enough. Always make sure that the water reaches clear down to the bottom. Otherwise, in setting out the dry soil crumbles away from the roots and the plants receive a serious setback. Or even if I set plant and box entire, the soil around the roots being dust dry takes a long time before it again absorbs water enough to push the plant into strong growth; and this happens only when the roots reach out into the moist soil surrounding the box. Be sure, also, that the soil all around the box and plant is well packed down. Don't have any loose dry soil around your plants or you will have no early tomatoes.

HONOR BRIGHT.—D. M. Ferry & Co., the seedsman of Detroit, Mich., write me that the picture of the Honor Bright tomato, which I had reproduced for these columns in an earlier issue, was drawn for them from life in the fall of 1897, and had been copyrighted. There was something so peculiarly lifelike about this picture that at once tempted me to use it. Since then Ferry & Co. have sent me their catalogue for 1899, and called my attention to a splendid colored plate (of the same tomato variety) which shows green, white, yellow and red tomatoes all on one cluster. It has the marks of genuineness, and is more pleasing than the average stock cut or stock plates.

THE ASPARAGUS CROP.—My people are already talking about the asparagus that I will soon have on my table. I consider asparagus one of the finest of vegetable dishes, and wonder how I or anybody else that could just as well have it as not would ever think of doing without it. I want asparagus in one form or another on the table every day during its season, and I enjoy it the last day about as much as I do the first. Then consider how rugged the plant is, and how easily it is grown. Scatter a few seeds or bury a few roots in a fence-corner or under a stone heap and you will see asparagus-stalks come up there year after year. Yet the plant pays well for highest cultivation. What you want first of all is a warm, dry spot, and better select such, even if not so very fertile, than the richest piece of ground that is soggy, cold and wet. One of my readers asks me what variety I consider best for home use, and whether the Columbian White is of as good flavor as Conover's. This reminds me of the controversy concerning the quality of eggs, some people contending that an egg having a dark shell is richer than one having a pure white shell. I do not believe that anybody could tell from the taste of what was in the shell whether that shell was white or dark. There is a decided difference in eggs as to quality, but this difference is due (in my opinion) merely to the food from which the egg was made. Filthy food, onions, leeks, celery, etc., if fed persistently, may impart a peculiar and not always pleasing flavor to the eggs. My taste has never been discriminating enough to discover any difference whatsoever among the different asparagus varieties as to flavor. All varieties taste alike to me. Yet the manner of growing the asparagus may make all the

world of difference in flavor. Green stalks taste different from blanched ones; in fact, there is nearly as much difference between the two in this respect as between green and blanched celery. Stalks grown quickly in good growing weather and warm soil are superior in flavor and tenderness to those grown slowly in a cold season or in hard, soggy, cold and wet soil. I like the Columbian White. It is a beautiful variety. But so far as flavor is concerned I would just as soon have the older Conover's Colossal. If you want those large fat stalks of finest quality and brittleness, give to your plants plenty of room—not less than four feet each way for each—in warm, dry soil, and then pile on the manure or fertilizers, but only in such a way that you can stir them well into the soil all over the bed. There should be no heavy layer or mulch of coarse, compact or soggy manure on top of the bed anywhere. Always keep the soil, especially over the crowns where the shoots are expected to come through, loose and mellow and free from all weed growth. Follow these suggestions and you will find the problem of growing choice asparagus an easy one.

EARLY VINE FRUITS.—Another reader asks me about the best way of growing watermelons, especially for extra early market. The only difficulty I experience here in growing watermelons is the shortness of our summers. I have to take every pains to get the plants started early. Usually I grow very fine watermelons, but I do not expect such a crop from my vines as could be grown in a more favorable climate and on a more sandy soil. The best soil conditions for the crop are about the same as needed for asparagus-growing. You should select the warmest spot of ground for them, and the more sandy, to a certain extent, the better. All our early vines—cucumbers, melons, squashes, etc.—are started in wooden plant-boxes in the greenhouse or a cold-frame. Here I sow the seed about April 1st; about three or four seeds to a box. The soil in these boxes should consist largely or altogether of fibrous loam (not sand or too sandy), such as, for instance, is made by rotting old sods, or of a mixture of Jadoo fiber and loam. When the plants are an inch or two high they should be thinned, leaving only the two best plants in each box. When the ground outdoors has become well warmed up (and not before), the boxes are taken out to the patch and there carefully removed from the cube of soil that holds the plants. These cubes are set into the soil and the latter firmly pressed around them. For a few days I provide shade by laying pieces of the box over the plants. Then the hills are uncovered and the soil around them frequently and thoroughly stirred until the plants begin to make rapid vine growths and cover nearly the entire surface.

WINTER SQUASHES.—This is also the way I grow at least a portion of my winter squashes. Then if the plants started from seed in open ground fail to escape the greedy jaws of bugdom, I have at least some left on which I can rely to give me a fairly good supply of squashes. But while I like to produce large melons, I aim in an opposite direction when growing winter squashes. The large specimens do not sell well; often I cannot get rid of them at all. The market demands small winter squashes. For that reason I shall hereafter crowd my hills closer together, and plant on soil of only medium fertility. A corn-field, preferably a closer sod, will do very well for growing small Hubbard squashes. In fact, I believe that it is about as easy to grow a crop of them as to grow a crop of pumpkins. This is only offered as a suggestion.

SPINELESS GOOSEBERRIES.—Last summer while I harvested my big crop of Columbus gooseberries, frequently with hands bleeding and smarting from the pricks of the sharp spines, I often wished for a spineless gooseberry. Varieties without spines had then already been announced and introduced from France. I would surely have tried to get some of the plants had I not been told by those who first tried them that they were not just the thing for us. Professor Goff also tested them, and found that while the stems of these varieties are nearly spineless, the plants suffer so much from mildew that they have made very little growth. Spraying with potassium sulphide did not wholly prevent the mildew. Therefore, they give no promise of being valuable for our climate. And yet I must say that efforts toward finding or evolving a good spineless sort fit for our climate should not be given up.

T. GREINER.

ORCHARD AND SMALL FRUITS

CONDUCTED BY SAMUEL B. GREEN

LAYERING THE GRAPE

Layering is the simplest, surest and easiest method of increasing the grape, and is the best way to grow them where but few vines are wanted. There are two kinds of layers, called spring and summer layers, from the season at which they are made.

Summer layers are made in the summer, generally the last of July, from a branch of the same season's growth. They are likely to be weak for several years, and do not make as good plants as the spring layers. In making them, the wood should be slit for an inch or so near the buds that are covered. Bury about one foot of the cane four inches deep in the ground and it will be rooted by late autumn, when it should be separated and be treated as a young vine; and it is generally best to get them well started in a garden or nursery before planting in the vineyard permanently.

Spring layers may be made by laying down any cane early in the spring. It will root in one season. By fall it will have made a good growth of roots, when it may be cut from the main cane, and if strong it may be divided into two plants. This form of layer



FIG. 1.—A ROOTED LAYER



FIG. 2.—THE ROOTED LAYER SEPARATED, MAKING TWO PLANTS

is illustrated in Figs. 1 and 2. By a little different treatment of the spring layer a vine may be grown from each bud on the layered cane. For this purpose some thrifty cane should be selected in autumn, pruned of its laterals, and buried. In the spring it should be uncovered and only one shoot permitted to grow from each joint. After the new growth has started about six inches from each bud the whole cane should be layered about four inches deep, handling it carefully so as not to break the new growth.

Fig. 3 shows such a layer after it has rooted. It is a good plan to cover it not more than three inches at first, and to fill up the trench as the shoots grow. If covered four inches deep at once the young growth will sometimes rot, though this seldom happens, and some skilful growers fill the trench full at once. In the autumn roots will be found growing from each joint, and



FIG. 3.—A ROOTED LAYER, EACH BUD MAKING A NEW PLANT

these may be cut apart and treated as recommended for weak vines grown from cuttings. If this method of propagation is to be used to some considerable extent vines should be grown especially for the purpose. It is not a good plan to use fruiting vines for layering to any great extent, though it may be safely done in a small way.

2

INQUIRIES ANSWERED

Apple-scab.—T. D. Dutton, Ala. For scab on apples see reply to S. E. D. in this issue.

Cinnamon-vine.—M. R., Jones Corner, Kan. The cinnamon-vine, which is more commonly known as Chinese yam, will grow as freely in Kansas as in Ohio. It is generally grown from pieces of the root or from the bulbs that form in the axils of the leaves, but may be grown from seed.

Best Peach and Pear Varieties.—W. E. L., Danville, Ill., writes: "What are the best varieties of peach and pear for this climate? The soil is prairie and timber loam."

REPLY.—The best varieties of peach for your section are probably Troth, Hill's Chili and Elberta. Of pears, Kieffer, Seckle, Flemish Beauty and Duchess d'Angouleme.

Raspberry-cane Rust.—J. W. T., Ticonderoga, N. Y., writes: "Please tell me what the trouble is with my blackcap raspberries. The canes are large and thrifty until the berries turn red, then the berries dry up and the canes die. I don't cultivate them, but put dry leaves, manure and wood-ashes around them late in the fall. I trim out all canes but five in a hill in the fall, quite late, and cut them back some."

REPLY.—Your raspberry-canines are probably affected with what is known as cane-rust, or an-

thraxose, which is a disease that shows as purple spots on the canes, which spots increase in size as the fruit is ripening, and starve out the fruit. The remedy as given before in *FARM AND FIRESIDE* is to spray the canes before they start with Bordeaux mixture, and then with the mixture of ordinary strength when the sprouts are about six inches high. If you will send six samples about ten inches long of different canes I can determine if the disease is what I think it to be.

Early Peaches and Plums—Reproducing From the Pit—Early Hardy Grape.—F. E., Roberts, Kan., writes: "What kind of peaches and plums are the earliest sort to ripen?—What kind of peach will reproduce from the pit? What plum will reproduce from the pit?—What is the earliest hardy grape?"

REPLY.—Among the earliest hardy peaches to ripen are Alexander and Troth's Early. Among the earliest plums are Wild Goose, Red June, Cheney and Abundance. The Wild Goose should be planted near other plums. I think you would do well to plant a few Crosby peaches, as it is a very hardy kind, although of inferior quality.—Most of the good varieties of peaches produce seedling trees that bear fruit of very good quality for cooking purposes. I do not know of any peach of best quality that is grown from seed. However, a Missouri peach, under the name of Summer Snow, is sent out as being of excellent quality and as coming true from seed. I do not know of any plum that comes true from the pit.—Perhaps the earliest hardy purple grape of good quality is the Worden, but among those that are earlier and of fair quality are Green Mountain (white) and Cottage (purple).

Spraying Apple-trees.—S. E. D., Frasers, Ill., writes: "When is the best time to spray apple-trees? Does it pay? What fluid should be used?"

REPLY.—The answers to your questions all depend on whether there is any injury liable to be done to your apple-trees which can be prevented by spraying. If your apples are liable to injury by tent-caterpillar, codling-moth or gonger, or by the scab, it will probably pay to spray, for when done properly it greatly reduces the injuries from these sources. The material to use will depend on what you are trying to prevent. For apple-trees for the prevention of codling-moth and fungous diseases a good treatment is to spray with Bordeaux mixture just as the leaves unfold, and again as soon as the petals have fallen spray with Bordeaux mixture to which has been added three or four ounces of Paris green to each fifty gallons. The Paris green destroys any leaf-eating insect that may appear, such as canker-worm, slugs, etc. If applied within one week of the time when the petals fall it will also aid in checking the codling-moth and the gonger. The application of the Bordeaux mixture and an arsenite should be repeated at the end of two weeks, and afterward as the occasion demands.

Strawberry Culture.—B. D., Georgia. The best time to plant strawberries is from the middle of August to the first of November. They will then bear a small crop the following spring, and a full crop the next year. A good way to do is to set a bed each year and plow in one each season just after fruiting the second time. They will grow on almost any good soil, but prefer that which will not bake hard. If the land will grow good corn it will grow good berries, but it will not pay to plant on poor land. Plant the sets fifteen inches apart in rows four feet apart; cultivate thoroughly, and keep the soil loose all the time. When the runners start, allow them to be drawn into the rows with the cultivator until they make a matted row about two feet wide. If the roots of the young plants for setting are very long, cut off from one third to one half, and in planting give the roots plenty of room. Perhaps the best market variety is the Hoffman. For home use you will find the Beder Wood, planted in alternate rows with Haverland, very satisfactory, but you may be able to get other varieties just as good from near-by nurseries. If you can plan to control a little water for irrigating when they are in fruit you will find it to give excellent results. If you have had no experience you had better not attempt much to start with.

Fertilizer for Orange-trees.—R. A., Pomona, Cal. In the use of manures, as in everything else where a profit is expected, it is important to use the cheapest material that will best answer your purpose. A crop of twenty thousand pounds of seedless oranges will take from the soil about fifty-five pounds of potash, thirteen pounds of phosphoric acid and fifty-four pounds of nitrogen. If the soil is rich and well cultivated, it may get along without any fertilizer for a long time, and some soils may be so rich in plant-food that the trees on them make too much growth and be liable to become diseased. If you intend to use fertilizers you may find that Chili saltpeter is the best form in which to apply nitrogen, or ground bone the best form in which to apply nitrogen and phosphoric acid, and wood-ashes the best form in which to apply potash; or perhaps good stable manure can be easily obtained, when it is perhaps the most desirable of all complete fertilizers. It may be that the refuse from some winery can be easily obtained, which is very rich in potash and also contains phosphoric acid and nitrogen; but it should be piled or mixed with stable manure until it is much decomposed, as when applied direct to the land it contains too much acid and does not decompose easily. It is probable that an application of four hundred pounds of ground bone and thirty bushels of unleached wood-ashes would be a safe and good manure to use, but I think you had better write to the California Experiment Station, at Berkeley, Cal., for advice as to the cheapest and best to use, since they may know of some waste product near by you that will answer your purpose, and which you can obtain easily.

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THE FARMER AND FIGHTER OF MONTENEGRO

[CONTINUED FROM FIRST PAGE]

dresses like his subjects and lives a simple, wholesome life, adored by his valiant people. His word is law, and his slightest wish is a command. Once a year all his subjects come to the capital, and here their quarrels are straightened out; the complaints are heard by the prince, who talks to them like a father, and they obey like little children. He is about sixty years of age, with an eagle's nose and an eagle's eyes, a warrior, a statesman, a poet, a priest and a peasant. He has led every battle of his people, and never lost one; he writes their songs and blesses them and provides for them in their need.

The prince is fond of telling this story, to illustrate the bravery of his peasant soldiers: At a certain battle one of his men plunged among the Turks, seized Osman Pasha, the general, and carried him alive to Prince Vikola, who in return gave the brave fellow five hundred ducats in gold for his prize. Half in fun and half in earnest he told him to bring another live Turk from the flock; and so in the next battle our peasant plunges among the Turks, as a diver plunges into the sea, seizes a huge fellow by the waist, and carries him bodily across to the Montenegrin line; but he had not gone half way when a bullet struck him, passing through both thigh-bones, and letting go his captive he fell heavily to the ground. The Turk with a shout of triumph sprang upon his fallen foe; but he, in spite of the agony in which he lay, retained strength of body and presence of mind sufficient for the occasion. He lay one hand heavily upon the Turk, who held him by the throat, pointed his pistol at his adversary's head, and quietly remarked, "Now then, Turk, if you do not want to be blown into another world just lift me on your back; and now, my fine horse," as the cowed and astonished Turk complied, "just trot me to my friends out there." The Moslem obliged his driver, and stumbled on over the rocks, groaning under the weight of his captor, to where the prince stood, who marveled at the huge Turk approaching him. He burst into a laugh when on the apparition reaching him he perceived his wounded subject riding the reluctant Turk, and who, after having presented his steed to the prince, fell senseless to the ground.

The next day the prince was to review his warriors, and they came by tribes into the palace garden, where, seated in the shade of a tree, he heard their complaints, encouraged,

at the great day when the Lord will review his soldiers the one we think the least deserves it, the humble toiler, the brave soldier, will receive the greatest reward and honor.

The prince keeps a standing army of eight hundred soldiers, who change every three months, thus bringing every able-bodied man in the country to the capital, where they are drilled in the use of the modern rifle and are ready any moment to go to war if their prince should call them.

Before leaving Cetinje, its hospitable prince, its inhospitable stony acres and its royal peasantry, I could not help but wish the prince a successful reign and repeat the



MONTENEGRIN PEASANT

words of Mr. Gladstone that "no Austrian eagle shall ever build his nest in the fastness of the black mountains, that some day in God's own time the Servian Barbarossa who is asleep in her caves should awaken and call his faithful peasant soldiers to arms and drive the Moslem from the fertile valleys once the proud possession of an industrious yeomanry."

No more beautiful farewell can be said to this gallant little country than the tribute paid it by the poet Tennyson:

They rose to where their sovran eagle sails,
They kept their faith, their freedom on the height,
Chaste, frugal, savage, armed by day and night,
Against the Turk; whose inroad nowhere scales
Their headlong passes, but his footstep fails,
And red with blood the crescent reels from fight
Before their dauntless hundreds, in prone flight
By thousands down the crags and thro' the vales.
Oh, smallest among peoples! rough rock throne
Of freedom! warriors beating back the swarm
Of Turkish Islam for five hundred years,
Great Tsernagora, never since thine own
Black ridges dried the cloud and braved the storm
Has breathed a race of mightier mountaineers.

NOTES FROM CORRESPONDENCE

FROM NORTH CAROLINA—Western North Carolina may well be termed the land of the sky. Our loftiest peaks tower nearly 7,000 feet above sea-level—Mt. Mitchell being the highest peak east of the Rockies. There is one peak that you can stand on and see into four states. The water is cold and pure, gushing as it does from the sides of the mountains, and on its way to the sea it has to tumble down over rocky precipices of several hundred feet, making scenery that cannot be surpassed. In this sparkling water are found the speckled beauties, the gamest and most beautiful of all fishes. Along these brooks you will find some fertile valleys which produce ten to thirty bushels of wheat to the acre; twenty-five to thirty bushels of corn, and rye, oats, potatoes, tobacco, etc., in proportion. Western North Carolina is one of the finest fruit-growing regions of the United States. The apple crop was never known to make an entire failure here. We have also an excellent market for our apples, as we are so close to the southern market. One party here last year sold his crop on seven hundred trees for \$1,000. The climate is all that could be desired; the summers are cool and bracing while the winters are mild and pleasant. We are now visited yearly by many thousands seeking a health resort. Western North Carolina is very rich in minerals such as mica, corundum, kaolin, copper, gold, etc. We produce more mica and corundum than all the rest of the United States. We have some of the finest kaolin deposits ever discovered. This is an excellent place for stock-raising, as all grasses do well here, and the mountains are the home of the sheep. Land is very cheap; mountain land is from \$1 to \$5 an acre, level land is worth from \$10 to \$50. T. C. B. Sylva, N. C.



BANNER-BEARERS

scolded and threatened, as the case demanded. A hundred men or more came in at a time, and a finer-looking set of men cannot be seen anywhere else in Europe. He occasionally left his seat, passed from one man to another, looked him in the eye, piercing each man by his glance, they kissing his garment as he passed. He came before an aged man whose medal-covered breast spoke of many a battle. The old soldier wanted to kiss his garment, but the prince kissed him on the cheek and said, "Brother, thou art the older and the braver; many a battle thou hast fought before I could draw a sword; thou hast never turned thy back upon any foe; it is for me to honor thee." It was an impressive sight, and sometimes I think that

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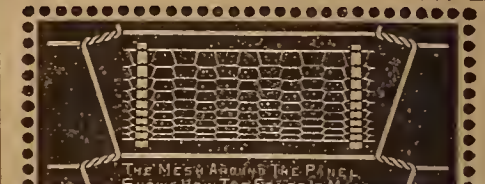
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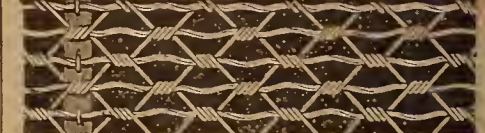
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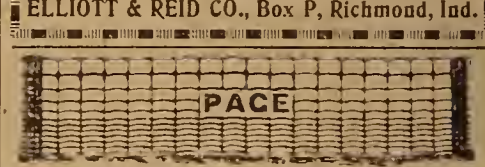


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QUERIES READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge.

Feeding Young Calves.—S. T., Natick, R. I. Take the calves away from the cows when they are two or three days old.

Dehorning Calves.—H. L. C., Maryville, Mo. Dehorn calves as soon as the "buttons" can be felt, and before they are three weeks old.

Onions on Muck Soil.—Mrs. E. M. S., Elkhart, Ind., writes: "Please give some advice in regard to the culture of onions."

REPLY BY T. GREINER:—For muck soils I would use wood-ashes if they could be had, alone, perhaps, if leached, and at the rate of five to ten tons an acre.

Cabbage-maggot.—W. R. M., South Lubeck, Me., writes: "Is there any known remedy or preventive for the cabbage-root maggot?"

REPLY BY T. GREINER:—Plant your cabbages and cauliflowers on new land, preferably a rich clover sod, a good ways away from where cabbages and similar crops have been grown the year before.

VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonyms inquiries are not answered.

Fail to Breed.—H. D., Centreville, Ind. Please consult answer given to C. F. T., Ashland, Wis., in the present number.

Possibly Slight Attacks of Colic.—O. E. P., Bonus, Butler county, Pa. The symptoms you give, "trembling and not drinking any water," are insufficient for a diagnosis.

Trouble with Cows.—J. W., Ann Arbor, Mich. Either breed your cows the first time they show symptoms of being in heat after calving or else breed them the first time they are in heat after they have been turned out to pasture.

A Tremendous Puller.—G. B. N., Charleston, Me. If your tremendous puller is a head-strong horse, use an Hungarian bit with a curb-chain and lengthened arms for the reins, and you will without difficulty be able to curb his ambition.

Hairless Spots.—L. A., Castle Dale, Utah. If the skin at the hairless spots of your horse has been destroyed and been replaced by scar-tissue or is degenerated, no hair can be reproduced, and where this is not the case hair will reappear without any treatment.

Warts.—H. E. R., Middletown, Md. Warts, if left alone, will disappear in due time. If one cannot wait, the warts may be removed in different ways; for instance, by excision, by means of ligatures, and by various caustics.

So-called Ringworm.—S. K., Mt. Carmel, Ill. What you describe appears to be a case of ringworm. Please consult the FARM AND FIRESIDE of February 15th.

Infectious Abortion—Collar-boil.—F. O., Meadow Creek, Mont. As to infectious abortion, please consult FARM AND FIRESIDE of February 1st and December 15th, and concerning the swelling on the shoulder, the same of January 15th and March 15th.

Diseased Lungs.—W. W., St. Paul, Minn. When your mare had pneumonia five or six years ago she never recovered, but some irreparable morbid changes were left behind and cause the coughing, the difficulty of breathing and the discharges from the nose.

Lost Four Calves—Probably Tuberculosis.—H. A. R., Salem, Conn. I cannot tell you the cause of the death of your calves, unless it was the diet that did not agree with them.

Dirty Soap-suds.—B. L. Cheney, Kan. I do not see any reason why dirty soap-suds should be given to pigs. They require healthy and clean food and drink just as well as any other animals.

Partially Paralyzed.—J. V., Laurel Bluff, N. C. According to your statement your cow suffers from partial paralysis, and in time will improve and probably more or less fully recover. Give her good care and allow her as much voluntary exercise as she is willing and able to take.

Garget.—A. D. D., Suquehanna, Pa. You say your heifers when coming in and afterward are troubled with caked udders. Relieve them by frequent milking, and keep them in clean quarters. Also insist upon it that the milkers wash their hands before milking, and you will have no more trouble.

Asked a Trifle Too Much.—W. W. P., Gulf City, Fla. A compliance with your request to describe rheumatic diseases and diseases caused by "cold" and exposure would fill several pages, and these are not at my disposal.

Swelling.—A. M. A., Wabauusee, Kan. You say your cow just before calving had a swelling on the lower surface of the body in front of the udder. This is nothing morbid, and when this reaches you the swelling very likely will have disappeared.

A Very Sore Foot.—E. B. McN., South Argyle, N. Y. Yes, there is probably a foreign body, maybe a piece of a nail or some dirt, in the wound. Besides that, the wound needs an antiseptic dressing and protection.

Loses Coat of Hair.—F. H. J., Milan, R. I. You say your cow has lost her coat of hair from her back and rump and is constantly trying to rub against something. This may have various widely different causes. So, for instance, cattle are apt to lose their coat of hair if kept on warm distillery slop, and several skin diseases and lousiness will cause itching and more or less a loss of hair.

Fails to Breed.—C. F. T., Ashland, Wis. According to your description it is rather doubtful whether your cow can be made to breed. If you wish to make another attempt, wait until the time comes when she can go to pasture, and then, if possible, send her to a pasture in which a male is also grazing; or if that cannot be done, breed her the first time she shows symptoms of heat after she has been turned out.

Itching.—M. E. G., Plymouth, N. C. The simple statement that your dogs are troubled with constant itching and scratch and bite themselves does not enable me to decide what may ail them, because such an itching sensation may be produced by anything irritating the skin, for instance, by fleas, and also, of course, by various skin diseases. Give your dogs a good wash with soap and water, and then before they are perfectly dry another wash with a five-per-cent solution of creolin in water.

A Depression on the Side of the Neck, and Lame.—F. B., Avon, Mo. If there is any causal connection between the depression in the fleshy portion of the left side of the neck and the lameness of the horse, the depression must be due to a rupture of an important muscle, probably of the one known as the deltoid and the clido-mastoid, a large, flat muscle on the side of the neck and extending from the occiput to the shoulder-joint, and, with a portion, even to the elbow-joint. If this is the case nothing can be done but to wait.

Care of a Brood-mare.—C. R., Forest Grove, Mich. If you are without any experience in taking care of brood-mares and in raising colts you cannot possibly expect to find all the information you are in search of encompassed in a few lines.

Incomplete Paraplegia.—W. H., Sprucevale, Ohio. What you describe is an incomplete paraplegia with atactic symptoms. As this is an ailment capable of being produced by different causes which cannot be ascertained except by a careful examination in combination with the history of the case, and as the treatment, if any is to be applied, must be directed against the cause, it will be best to have your colt examined by a veterinarian.

A Fistula.—W. N., Bone Gap, Ill. You neglect to state where the fistula is, and do not say anything about its condition, etc., consequently it is impossible to give directions for its proper treatment. Besides this, any treatment of a fistula is seldom successful unless the fistulous canal or canals are made accessible and perfect drainage from end to end procured by a surgical operation; and furthermore, after the necessary operation or operations have been performed, the after-treatment requires good judgment, exact knowledge of the anatomy of the parts directly and indirectly affected, and great care and circumspection.

Probably Some Worm-disease.—W. O. E., Monticello, Ky. Your calves, it seems, suffer from some worm-disease, but whether the worms are lung-worms or both lung-worms and liver-flukes does not appear from your communication. It is, however, easily decided by a careful post-mortem examination, which to make you will have more opportunity than you desire, because the "black" diarrhea, the great debility, the edematous swelling beneath the lower jaw, on the legs and probably beneath the brisket, and the blood-stained discharges from the nose are unmistakably fatal symptoms.

A Capped Knee in a Cow.—E. P., Neosha, Wis. What you describe is a so-called capped knee of a very large size. It really is a cystic tumor, which, even in a horse, presents great difficulties to a successful treatment, which in a cow, owing to the peculiar way in which a cow rises when lying down, may be considered as insurmountable.

Pearly Tuberculosis.—A. C., Dooks, Va. You have given a very plain and really graphic description of a case of pearly tuberculosis, a form of the disease met with in cattle in about two fifths of all cases. Probably the lungs, of which you say that they were much enlarged, also contained tuberculous tumors.

Brittle Hoofs and Hollow Wall.—W. R. H., Vernal, Utah. Instruct your horseboer to clean out the hollow space between the wall of the hoof proper and the horny laminae, but without injury to the latter, and then to fill the space with absorbent cotton saturated with either tincture of aloes (one part of aloes dissolved in four parts of alcohol) or with tincture of myrrh, to cut away the separated part of the wall sufficiently to bring it out of any contact with the upper surface of the shoe after the shoe has been put on, the empty space between shoe and wall may be filled with absorbent cotton saturated with the tincture of aloes, then to put on a well-fitted bar-shoe, and to use the thinnest nails he has, and even of them not any more than absolutely necessary, and these where the wall-horn is strongest and best.

RUPTURE. CUR'D! Worn night and day. Patented Improvements, comfort, safety. New full-illustrated Book, telling all about Rupture, sent free, securely sealed. G. V. HOUSE MFG. CO., 744 Broadway, New York. (Mention FARM AND FIRESIDE when writing.)

Potash. ENOUGH of it must be contained in fertilizers, otherwise failure will surely result. See that it is there. Our books tell all about fertilizers. They are sent free to all farmers applying for them. GERMAN KALI WORKS, 93 Nassau St., New York.

HORSE-HIGH. With our Duplex Automatic Fence Machine you can make 100 styles of fence at the rate of 60 rods a day. Every rod of it will possess the three leading attributes made prominent in this ad. KITSELMAN BROS., Box 225, Ridgeville, Ind.

ACME BICYCLES. Direct from the factory to the rider at WHOLESALE PRICES. If you want to save agents profits and secure a HIGH GRADE BICYCLE AT MANUFACTURER'S PRICE, write for catalogue showing eight beautiful models with complete specifications. ACME CYCLE CO., 333 Main Street, Elkhart, Ind.

Reversible LINENE Collars and Cuffs. Stylish, convenient, economical. Made of fine cloth, finished in pure starch, and exactly resemble fashionable linen goods. REVERSIBLE COLLAR CO., Dept. C, Boston, Mass.

No Money in Advance! \$1550 HIGH GRADE BICYCLES. Shipped anywhere C. O. D., with privilege to examine. CASH BUYERS' UNION, 162 W. Van Buren St., B-7, Chicago, Ills.

Good Fence Cheap. You can make a better fence for less money with this Hoosier Boy Fence Machine than you can get in any other way. P. C. JACOBS, Sole Maker, Box 28, Irvington, Ind.

Caution—The market is full of imitations, represented to be the same as BROWN'S Bronchial Troches of Boston. The Genuine has the Fac-Simile Signature of on every box.

CYCLONE FENCE MACHINE. Builds 100 RODS of strongest fence a day, 27 to 60 inches high, 7 to 12 cables. Easy to Build and Cheap. Thousands in use. CYCLONE FENCE CO., HOLLY, MICH.

AXION ELASTIC TRUSS. RUPTURE. CUR'D! Worn night and day. Patented Improvements, comfort, safety. G. V. HOUSE MFG. CO., 744 Broadway, New York.

Manufactured with SORE EYES USE Dr. ISAAC THOMPSON'S EYE WATER

Enameline

when applied, is most BRILLIANT, and that is the effect you want when using a stove polish. When an old stove is polished it should look as bright as new—that is the result when you use Enameline. It is put up in paste, cake or liquid form. Remember that every package is guaranteed.

J. L. PRESCOTT & CO., New York



THE TREE-LOVER

Who loves a tree, he loves the life that springs in star and clod;
He loves the love that gilds the clouds and greens the April sod;
He loves the wide Beneficence. His soul takes hold on God.

A tree is one of Nature's words, a word of peace to man,
A word that tells of central strength from whence all things began,
A word to preach tranquillity to all our restless clan.

Ah! bare must be the shadeless ways, and bleak the path must be,
Of him who, having open eyes, has never learned to see,
And so has never learned to love the beauty of a tree.

'Tis well for man to mix with men, to drive his stubborn quest
In harbored cities where the ships came from the East and West,
To fare forth where the tumult roars, and scorn the name of rest.

'Tis well the current of his life should toward the deeps be whirled,
And feel the dash of alien waves along its channel swirled,
And the conflux of the eddies of the mighty-flowing world.

But he is wise who, 'mid what noise his winding way may be,
Still keeps a heart that holds a nook of calm serenity,
And an inviolate virgin soul that still can love a tree.

Who loves a tree, he loves the life that springs in star and clod;
He loves the love that gilds the clouds and greens the April sod;
He loves the wide Beneficence. His soul takes hold on God.

—Sam Walter Foss, in "Songs of War and Peace."

manly character and a noble life. It is not difficult to meet the demands of the world. Its code of morality is mainly negative; all it requires of us is to be respectable. But he who keeps a strict watch upon his own spirit, and judges his own outer and inner life conscientiously and intelligently, must make great demands upon himself. He who does so will not need to care very much what others think of him. True worth will shine out sooner or later. He may give offense sometimes, and be occasionally misunderstood, but he has only to wait a little and stand his ground. He is not like the miserable slave of conventionality who has constantly to be resorting to mean expedients to hide his defects and make his tinsel look like gold. The workman who cannot bear to let his work out of his hands as long as his own eye can detect a flaw in it will not have to wait long to see it appreciated by others also. There are few feelings more satisfying than, amid public depreciation and obloquy, to fall back on one's own sense of pure motives and right conduct. This, however, is a comparatively easy thing to do; it is a far rarer manliness to acknowledge the faults which one's own eye can detect, even when others are applauding, and to pass through all the drama of moral feeling which the conscientious review of our conduct ought to excite, whether others know anything about it or not. This is an experience unknown to the shallow man; it is the manly way.—Dr. James Stalker.

MAN'S LIKENESS TO MAN

While it is true that no two persons are alike, it is also true that no two are wholly different. The bond of likeness of man to man is greater than the separateness of unlikeness, for man is made in the image of God. No one has a right to consider himself entirely incapable of forms of evil to which others have fallen a prey. If he has not yet fallen into them, so much the greater his need of gratitude. But he is like those who have so erred in that he is not out of danger. Neither is there any height of spiritual attainment reached by his fellows of which he ought to consider himself incapable. In liabilities and possibilities men are much alike, even though in the end they have differed in degree. It is more essential for the mutual assistance of each to each that men should think more of that which unites them as one in kind, than of that which separates them as diverse either in kind or in degree.—Sunday-school Times.

HOW MR. MILBURN STUDIED

Dr. Milburn, the blind chaplain of Congress, is a wonderful example of pluck under terrible difficulties.

At five years of age the sight of one eye went; with the other he could still see partially. How he managed to spell his way through school and college is a wonderful story.

When he made up his mind to enter the ministry, he was a clerk in an Illinois store, with small means and small opportunities.

"Time was," he says, "when, after a flashing glance which instantly transfers a word, a line, a sentence from the page to the mind. It was a perpetuation of the child's process, a letter at a time, always spelling, never reading truly. Thus, for more than twenty years, with the shade upon the brow, the hand upon the cheek, the finger beneath the eye to make an artificial pupil, and with the beaded sweat joining with the hot tears trickling from the weak and painful organ, was my reading done."

Then what little sight he had steadily faded, until at last he was—as he has now been for more than half a century—totally blind, yet a man of great ability, and a power in the Methodist church.—Baptist Outlook.

DON'T LET LITTLE THINGS WORRY

You better learn to accept all the small misfits and the trivial annoyances of life as a matter of course. To allow them to receive attention beyond their deserts is to wear the web of your life to the warp. Be on the lookout for the great joys, and never let mosquitoes worry you into a passion.—The Philistine.

SECOND-HAND RELIGION

IT IS surprising how much second-hand religion there is in our American churches. Second-hand religion I call it, and like second-hand furniture it may be sometimes good, but most generally very poor and none of it to be compared with that which is to be got from the great first source of all true piety.

Second-hand religion! What is it? Many a person professes the Christian religion, not from personal investigation of its claims, not from an experimental acquaintance with its truths, not from its intrinsic merits, but because he has been thrown into the society of one whom he admires. He accepts the religion of the man that he loves. He believes the creed of the benefactor he is deeply indebted to, and his conviction of the truth, his attachment to Christianity, not being based on the intrinsic merits of Christianity itself, not having been penetrated with its life nor animated by its spirit, possessing only the reflected luster of him who he admires—his profession will, of course, vary with the consistency of him on whom it was originally founded. It is "second-hand religion," and when that individual doctor of theology or pastor or professor falters or fails or gives way, his religion, based not upon principle, investigation or intrinsic merit, will falter and fail and give way with him.

The man after whom you model your piety and at whose suggestion you accept your faith may have adopted his own in the same second-handed way, with the imperfections invariably attending such a process. If you were at once to go to Christ and his word, you would find what a stale and unwholesome feast—stale bread, second-hand religion—you had been willing to accept in place of fat things at the table of the Lord. Instead of a "bargain in the cheap article of second-hand religion" let us have a religion of personal conviction and religion of the heart, something inside that guides us, sustains us, strengthens us, which will enable us to say, "I am a Christian not because I admire a certain man's religion, but because I know whom I have believed, and I have been taught by Him."—C. A. Koenig.

MANLINESS

The manly way is to treat lightly the judgment passed on us by others, but to be anxiously and honorably sensitive about the judgments which we are compelled to pass on ourselves. This, I say, will produce a

FREE — A FINE GRAPHOPHONE

Furnishes an evening's amusement for the family.

51-lbs. Best Granulated Sugar \$1.00

This unequalled offer is a part of our great \$14.75 Family Combination Grocery Order.



Send \$1 with order. This Graphophone sings as Melba plays Sousa's and Gilmore's Operas, Marches and Orchestral pieces, delivers Orations, relates jokes—in short it is a whole show in itself. Two records free in cash accompanies order. Send \$14.75 and receive the groceries, including 51 lbs. best granulated sugar and the celebrated 1899 Graphophone; or send \$1, and the goods will be sent subject to examination. This is the list of groceries with the regular and cut prices compared:

John M. Smyth Company 150-166 W. Madison St. Estab. 1867. CHICAGO

BUTTER COLOR NEEDED NOW

ONLY BUTTER OF RICH, JUNE COLOR BRINGS HIGHEST PRICES

W. R. & Co.'s Improved Butter Color Used by the Best Buttermakers Everywhere

To have butter sell well and at a good price, it must have a rich, June color the year round, and this can only be gotten by using Wells, Richardson & Co.'s Improved Butter Color. The prize winners at the National and State Dairy Conventions almost invariably use and recommend this Color. It is endorsed by leading pure food authorities and dairy experts as the only natural color that can be added.

This Improved Butter Color is much stronger than any other color sold, and hence is the most economical. Only a very little is needed to give the required shade.

If you are not using our color, send 4 cents for postage on a free sample to the manufacturers, WELLS, RICHARDSON & Co., Burlington, Vt.

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Artistic homes cost no more than ordinary homes. The difference is in the choice of wall paper. And right choice does not add to the expense when selections are made from our catalogue, a handsome book

BY MAIL FREE
containing choice selections from the works of the best wall paper designers. Prices much lower than those of ordinary dealers. Send for it to-day. When you write, tell us what rooms you plan to paper.

Agents Wanted to sell wall paper from sample books. Large commissions. Write for particulars.

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HOME STUDY

Improve your leisure moments and fit yourself for positions of trust and responsibility by studying at home by our simple yet complete course in **PENMANSHIP, BOOK-KEEPING, BUSINESS FORMS, COMMERCIAL LAW, STENOGRAPHY, etc.** Our free booklet, "Getting On in the World," sent all who write for it. Trial lesson 10 cents. **METROPOLITAN BUSINESS COLLEGE, 11 Monroe St., Chicago, Ill.**

THE ROCKER WASHER...

WARRANTED to do the family washing 100 PIECES IN AN HOUR. No need for washboard; no wear on clothing. Write for special prices and description.

ROCKER WASHER CO. 200000
Clinton St., Ft. Wayne, Ind.
Liberal inducements to live agents.

A FAST DYE FREE!

We wish to PROVE TO EVERY LADY that "PERFECTON" Dyes make the FASTEST, STRONGEST, and BRIGHTEST Colors, and we make this liberal offer as an inducement to try them. Send 10 cts. for a package of our New Black (your choice for wool or cotton), and you will also receive a large pkg. of Turkey Red for cotton FREE, if you enclose this advertisement in your letter. Write at once. W. CUSHING & CO., Box 77, Foxcroft, Maine.

BABY CARRIAGES Shipped C. O. D. Anywhere to anyone at Wholesale Prices. NO MONEY IN ADVANCE. Buy from factory, save dealers' profits. \$18 Carriages for \$9; \$25 Carriages for \$12.50. \$48 Carriages for \$25.00. \$60 Carriages for \$35.00. Send for free illustrated catalogue and freight offer. **CASH BUYERS' UNION, 104 West VanBuren Street, B-7 Chicago, Ill.**

BICYCLE FREE OR CASH TO ANYONE distributing my soaps, etc. I trust you. F. Parker, 277 E. Madison St., Chicago, Ill.

FREE!

Roman Gold Bangle Bracelet OR GOLD FILLED RING For Selling 20 of our Ladies' Gold Plated Beauty Pins At 5c. Each. (Regular price 10c.)

NO MONEY REQUIRED IN ADVANCE Just send us your name and address, saying you will sell the pins or return them, and we will mail them at once. On receipt of your letter. Everybody needs several of these pins. - You can sell them in a few minutes at 5 cents each. Send to-day—don't wait.

LADIES PIN CO.
815 Schiller Bldg.
Chicago

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Students in the courses of Mechanical or Electrical Engineering, Architecture, or any of the Civil Engineering Courses are soon qualified for salaried drafting room positions. Write for pamphlets.

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Do not send any money; just your photo or of some one that is dear to you. We will enlarge it FREE of charge and send it to you prepaid. Write your name and address on back of photo, and enclose two two-cent stamps. Address

THE CLEVELAND ELECTRIC LIGHT ENLARGING CO.,
Established 1890. (Incorporated.) Dept. A, Cleveland, Ohio.

HIGH ARM. USE IT FREE

30 days in your own home before paying one cent in advance shipped anywhere, to anyone, for 30 days' test trial. We risk you, \$60 White Star Machine, -- \$22.00 \$50 Pearl Machine, -- -- 18.00 Standard Machines, \$9, \$12.50, 16.00

Full set of attachments free from factory and save \$10 to \$40. WE PAY FREIGHT thousands in use; catalog showing 20 other styles, free. Each machine guaranteed 10 years. CONSOLIDATED WHOLESALE SUPPLY CO., Dept. 91, 216 S. Clinton St., Chicago, Ill.

\$1.25 ALARM CLOCK FREE

Send 10 addresses of people whom you would like to have your alarm clock to see how they like it. We will send you one free of charge. Goods guaranteed or money back. THE CONSUMERS SUPPLY CO., 610 Atwood Bldg., CHICAGO.

NO DIRT LEFT

in clothes washed with the "BUSY BEE WASHER" 100 pieces in one hour and no hard work done. That is the record. AGENTS WANTED. Exclusive sale. Write for terms. Lake Erie Mfg. Co., 116 E. 13 St., Erie, Pa.

EVERY WOMAN

can buy a WORLD'S WASHER on trial and no money paid until it is perfectly satisfactory. Washes easy. Clothes clean, sweet and white as snow. Child can use it. I pay freight. Circulars free. C. E. ROSS, 10 Clean St., Lincoln, Ill.

\$2 Baby Carriages \$2

The largest line—the best quality and latest styles—at factory prices. No Agents, No Fancy Profits. 100 styles to select from. Our big illustrated catalogue FREE. Send a postal for it to-day. Blume & Armstrong Co., Dept. 99, Chicago.

700

Sample Styles of Silk Fringe Cards, Hidden Name Cards, Love Cards, Scrap Pictures, Oases, Posters, Album Verses, The Star Puzzle, 13 Puzzles, and Agents Sample Album of our latest Cards. Send 2c stamp for postage. BANNER CARD CO., CADIZ, OHIO.



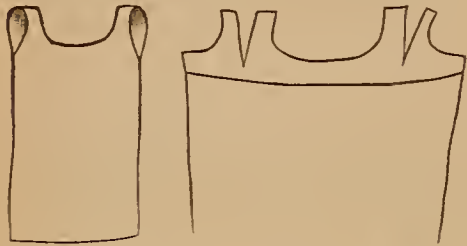
HOUSEHOLD

THE STRANGER AT THE DOOR

NO MATTER who the stranger, or upon what errand intent, it seldom happens that the stranger at one's door is unworthy of the kindest of consideration, and it becomes the housewife's duty to grant a hearing. It is the least that one can do, and civility is due to whomsoever may present themselves. Did the busy housewife who prefers not to be disturbed or interrupted about her work stop to "put yourself in his place," the countless instances of unkindness and rudeness to the stranger agent, who is thus seeking to better personal circumstances, would never have been enacted, and one less stain of guilt would rest upon her mind. For was ever unwarrantable rudeness and unkindness indulged in that one did not regret it when too late? At least if not regretted it is cause for regret. And one so case-hardened as not to wish they might recall the hasty word or action is scarcely worthy of the name of "woman."

There are comparatively few people who from choice seek a living by canvassing from house to house, going from place to place, and meeting all classes and conditions of people. For somewhere, and almost every day, they are called upon to meet with insult, in words that are keen and cutting and ill befitting the lips of man or woman. And how it must cut to the very quick and sink to the very heart's core! But necessity often drives people to do that which they would prefer not to do, and men and women are canvassing who would take other employment in preference if it were given them to choose.

There is the pleasant side to the work, usually, but there is the ever-present dread of what the next place to be called at may



have in store for the agent. If a pleasant reception, one goes out from that home blessing womankind and with the heart a little stronger for the next attempt at introducing self and business. But coldly received and treated to sneers and a seeming glance of contemptuousness, the canvasser turns from the door with a sickening dread at heart and a feeling of weakness and incapability to proceed, no matter how pressing the need. The light of many a heart has virtually "gone down in the darkness of night," and a possible well-paying business been abandoned, from the fact of being unable to meet the all manner of unpleasant receptions given at the doors of well-to-do people who know nothing of the need of self-exertion in any of themapped-out paths of effort at "making a living."

Incivility toward the stranger at one's door is one of the crying sins of the day. Many a pathetic story and heart history has been given in a burst of confidence by the traveler-stranger to one who has been unusually kind to the stranger at her own door. For the heart becomes too full with gratitude and temporary happiness at the sight and sound of kindness to retain it all, and it seems a pleasure to confide to a motherly, womanly heart something of the necessity that drove one out from home in a desperate attempt to save a home, perhaps, or to help support some one near and dear who had been bereft of the ability to support self. The world is all so full of pitiful stories and of almost desperate men and women who are seeking, through honorable and legitimate means, to earn a livelihood. And the least that one can do, surely, is to extend kindness and cordiality to every one who comes to one's door.

In comfort and independence to-day, perhaps, yet little knowing that in but a year or two, or even within a possible few months, we, too, may be obliged to seek some means of livelihood that shall take us out from home and among strangers, why can we not stop to consider and to determine that, no matter who it is that comes, each individual shall be given the kind word, admittance to the house, the pleasant smile

and every possible word of encouragement, even if not prepared to purchase what the agent has to dispose of. For it is the agent that comes oftentimes to the thresholds of our homes, among strangers.

It is very frequently the case that it is inconvenient to be called from one's work to answer the rap at the door. Or one may be entertaining callers or otherwise engaged when an agent calls, asking for a hearing and for a few moments of one's time. But there is never a time when one can afford to be uncivil or in any manner unkind and dishearteningly cool in demeanor.

When born into this world and intended to remain here indefinitely the necessity arises of support. Circumstances unexpected and over which one has no control whatever come about, and circumstances that throw those accustomed to it entirely upon their own resources. Lives have gone down a perfect wreck because of it. And many a life has been a ruined one because of continued and disheartening rebuff from strangers to whom the stranger agent went, hoping to make sales and to thus find a means of self-support. From this very state of fact does every housewife become in a measure responsible for the termination of the life of the stranger who comes to her door. By her kindness and consideration, or by her unkindness, her influence goes out for evil or good and helps to measure the sum total of the after-days of every man, woman or child who comes to her asking of her time, or her pleasant reception at the least. Through refusal she dreams little of the wreckage she is helping to bestrew the pathway of life with. Through kindness she little dreams of the haven of earthly rest or of the heaven on earth that she is helping to build for oft-despairing hearts and frantically weary lives.

It is such a little thing to do,
To give a kindly word or two
To all with whom you meet.
But every word thus kindly given
Helps form that golden chain toward heaven,
And makes one's life more sweet.

It were such a simple thing to do,
To give the kindly "how d'e do?"
And the pleasant, well-lit smile.
But it helps to lighten, every day,
The stranger's burden on his way,
And you're happier, too, the while.

Just "the other day" one such stranger came to the sitting-room door of a friend of mine, and this stranger was tired and world-worn and longing for kind words really more than for sales. She was cordially invited in, and though my friend at the outset explained that she could not possibly purchase the stereoscope and the sets of exceptionally elegant pictures, as needs were many in her household and money not abundant, our pleasant little agent guest of the hour insisted upon showing her pictures, and upon going away expressed herself as fully repaid for her time by being told that we had been pleasantly entertained and in wishes expressed concerning her welfare and success. And it "was such a little thing to do." But kindnesses were oftentimes



more than riches, and we all know that the world is all too full of disappointments, heartaches and discouragements. Why not then seek to lighten the burdens of our sisters and brothers whenever the opportunity comes, and so directly in one's way, as does the offering of smiles and encouraging words to strangers who, upon one errand and another, present themselves at one's own door.

Lasting friendships have been thus begun, and many a woman who was struggling with the bread-and-butter problem dates her real successes in attempts at self-support to the day when she was granted an exceptionally

cordial greeting at a stranger's door. She gained the heart-strength to proceed and to battle on just from words of encouragement and suggestions given. One such agent traveled from home to home, carrying a quite burdensome article of great kitchen importance. She was so practically inclined, and understood so well the practical make-up of a great majority of housewives, and also the need of the majority that count the cost when making purchases, that despite the fact that she would have preferred to canvass for a lighter and daintier article, she carried out her plans, irrespective of personal preference in the matter, and took that which would be most likely to sell at every home entered.

This agent needed money. The demand was imperative. There was much to be gained or lost through her work. And quick



to recognize the sudden necessity of action, she "pocketed her pride," took up the article that would sell most readily, and started out, faint-hearted but determined. And she won. Like every other agent, she met with all classes of people and all manner of experiences. Some of the experiences were disheartening, and at times she was almost self-persuaded to abandon the field she had entered. But she occasionally met with a kind-hearted woman, and was again encouraged to go on. And go on she did, until she had made more than the necessary sum for a necessary purpose, and had gained wide experience and a business position that brought to her and hers eventually a very independent yearly income. To begin with, she simply did what she could. She did the very first thing that her hands seemed to find to do. She smothered her pride, hid her inward feeling of humiliation, and virtually "put her shoulder to the wheel." And it turned for her into prosperity's by-paths. But she said, "A few of my stranger friends along the way helped and encouraged me where others insulted and repulsed me. And my good friends—housewives who manifested heart and feeling—were such a help in pushing me on to success."

Don't let us ever forget it—that to every stranger at the door we owe a kindness, the presenting of a pleasant countenance and pleasant words.

ELLA HOUGHTON.

AN INFANT'S NECESSITIES

A DAINY BASSINET.—A very lovely bassinet in gold and white, as here illustrated, can be made by the energetic worker, who will be well rewarded for her trouble. An ordinary small clothes-basket forms the body of the bassinet, and an iron frame, made for a small sum by a mechanic, serves as the stand. Both the iron frame and the basket were treated to two coats of white bath enamel, very inexpensive, and a few touches here and there of gold paint. The basket is hung on the frame by a brass chain, and when the feather-pillow, which serves as a tiny bed, is placed in the basket with all the other dainty little covers, etc., a prettier bassinet can hardly be imagined.

Bassinets, as a rule, are too expensive for the purse of the average mother who must buy them, but this one can be made for a small sum, and with not so much effort as might be expected.

NURSERY-BASKET.—A nursery-basket is almost indispensable to the young mother, and one can be made up at a very small cost. The illustration shows a square-shaped basket trimmed with pale blue silesia and plain bobbinet. For the bottom a pad is made of cotton batting covered with blue silesia and again covered with bobbinet, which

shows the delicate blue beneath. A three-inch ruffle (or according to the size of the basket) of blue silesia is tacked around the outside and also around the inside of the basket-rim. This being done, a ruffle of bobbinet with a tiny heading is also tacked above the ruffle of silesia. Little knots of baby ribbon ornament the corners and other parts of the basket. Little corner pockets are made of blue, covered with bobbinet, to hold many of the dainty baby articles. A couple of pinchions are tied to the sides of the basket with ribbon.

The basket, when completed, is very dainty, and more serviceable than one might imagine, as it will hold all the little nursery articles which must be in one place and easily at hand when baby is being bathed.

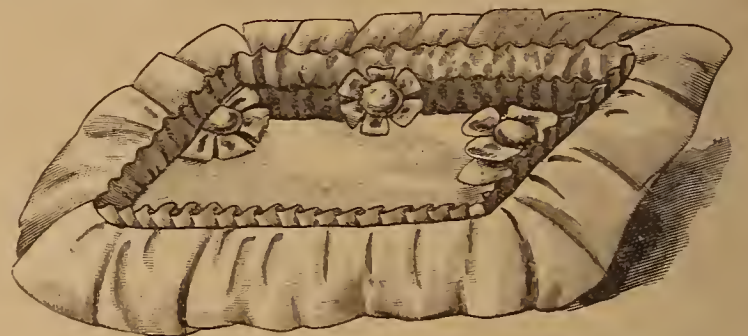
BABY'S ROBE AND SKIRT.—A very dainty and serviceable lap-robe or blanket for the very young baby is made out of inexpensive eider-down, costing from forty to sixty cents a yard. Eider-down is chosen because it is so soft and pleasant to the skin, is washable, and is withal very pretty. Cut a piece of eider-down one by one and one quarter yards. It is not necessary to allow for a hem, as it would only be bulky. A very pretty finish is made by crocheting around the eider-down robe shells of four double crochets, placing each shell about three quarters of an inch from its predecessor in order to avoid any fullness of the edge, which is prettier plain.

Expected babies are of such uncertain quantity, that is, as to size and weight, that one hardly knows how to provide for them beforehand. A very sensible flannel skirt is also illustrated. As you will note, the little shoulder-straps are not joined together, but have been left ready to be fitted to the little arms and shoulders. An inch hem is made at the ends, so that when the straps are fitted together the tiny safety-pin, if it is to do the work, can be pinned through just one thickness of the flannel, thus avoiding any contact of the pin with the soft flesh of the infant. As this is so simple, a pattern is not necessary.

EMMA LOUISE HAUCK ROWE.

COUNTRY SCHOOLS

While there has been a marked advancement in country schools, school-houses and grounds during the last fifty years, yet there is still abundant room for improvement. The country school-house is even now lacking in almost all the elements of beauty and com-



fort, and its sanitary condition does not seem to have had a thought. The committee on rural schools, of the National Educational Society, in its report says: "The rural school-house, generally speaking, in its character and surroundings is depressing and degrading. There is nothing about it calculated to cultivate a taste for the beautiful in art or nature."

The home life of the farmer has changed almost entirely. Improved machinery has taken the place of much manual labor. His home is furnished with comforts and luxuries that half a century ago were very rarely seen there. The clothing is no longer of homespun; butter and cheese are made in factories; newspapers, books and magazines are plentiful, and bring the farmer's family into close touch with the world at large. The country school-house and its surroundings ought to be in keeping with the best of country homes. No one can deny that the years spent by children in the school-house are among the most plastic years of their lives, and if, as we believe, surroundings help to mold character, then is it not as important that the school-houses and grounds should be beautified as that the homes should be pleasing to the eye as well as comfortable?

A child going from a home where taste and culture are displayed, where trees, vines and flowers add their charms, will not be contented in a bleak and cheerless school-house; and children going from homes alike cheerless are deprived of the softening and refining influences which might be given them by bright and pleasant school surroundings. Quoting again from the report mentioned

above: "If children are daily surrounded by those influences that elevate them, that make them clean and well ordered, that make them love flowers and pictures and proper decorations, they at last reach that degree of culture where nothing else will please them. When they grow up and have homes of their own they must have them clean and neat and beautified with trees and flowers, for they have been brought up to be happy in no other environment."

If any school-house and grounds ought to be beautiful, it is the one in the country, where it can be so easily accomplished. If we would have our own and our neighbors' children love the country and country life, we must make not only our country homes, but the country schools beautiful. Children naturally love the bright and beautiful, and turn away from the gloomy and cheerless. But some one says, "See how the children destroy and deface, breaking windows, marking walls and desks in the old school-house. What would be the use of planting trees and flowers? They would all be destroyed." I know all these things have happened to the old school-house, but might it not have been because it was so cheerless and uninviting? I really do not see how any child could have much love or even respect for the unsightly building and desolate surroundings of many of our country school-houses.

Now is the time of year to think about and begin to plan for a better state of things. Talk it over with your neighbors. Two or three earnest ones can accomplish wonders. Interest the school trustees and most influential persons in the neighborhood in the matter, and make a beginning. Arbor day will be a good day to do some work. Make it a neighborhood affair, a kind of picnic, laying your plans well beforehand and getting some pledged to bring trees, shrubs and vines, and others to give their time and labor. If the house needs painting, plan for that and any other repairs it may need. See that the proper outhouses are in order, and if there are no screens for them, plant some of quick-growing, bushy shrubs. If there is a tight fence in this place, plant vines which will soon completely cover it and serve the purpose while the screens are growing. Let the children help all that is possible in this work, and they will be all the more interested in keeping everything in order. They will not destroy, or let any one else, what they have helped to plant.

A bulletin, No. 160, "Hints on Rural School Grounds," by L. H. Bailey, has been issued by Cornell University, which should be in every school district in the country. Undoubtedly any one writing to the Director of the Agricultural Experiment Station, Ithaca, New York, could get this bulletin, and also bulletin No. 121, on the "Planting of Shrubbery," and from them they would get many valuable hints.

School-buildings planned with an eye to beauty as well as utility, set in well-laid-out and planted grounds, with ample, grassy playgrounds, will be an ornament to any neighborhood, and besides the potent influence for good exerted on the whole community will naturally enhance the value of all surrounding property. MAIDA MCL.

WHAT WE LEARN AT THE CLUB

"It isn't the thing you do, dear,
It's the thing you leave undone,
Which gives you a bit of heartache
At the setting of the sun.
The tender word forgotten,
The letter you did not write,
The flower you might have sent, dear,
Are your haunting ghosts to-night."

At one of our meetings we had "Quotation and Thoughts." This verse from Margaret E. Sangster did me so much good, that is, afforded such abundant food for thought, that I could but "pass it on." And isn't it sad, when we think of it, that we are often so hurried and busy with our household affairs that we have no time, or think we have not, to speak the tender word or gather the flower to send. But oh, we cannot tell the good we might have done by "the bit of heartsome counsel you were hurried too much to say." I like the word "heartsome;" it is an excellent word to study. An impersonal, cold advice is not what the hardened heart wants, but the heart to heart talk, the winsome tone, the gentle, loving touch of the hand, the sympathetic tear.

"Life is more than meat, and the body than raiment." Oh, the good we might have done—lost without a sigh! How often we say to ourselves, "I might have done this or that act of kindness if I had only thought." But, dear sisters mine, does this exonerate us? Is it not our duty to think?

I was strongly impressed with an act of a neighbor of mine a few days ago. Meetings

were in progress at the church, and this woman had attended several times; she was timid and reserved and felt that she could never speak or pray in public, yet she longed to do something for the Master. She prepared a nice lunch for a woman whose hands are more than full and who is alone with her two little children, took it to her, helped her with her work, and invited her to the services. It was a little act; yet its results may redound to eternity.

We sometimes ease our conscience by saying, "I have so many burdens of my own to carry that I cannot help another carry hers."

Have you ever sat on the banks of a cool mountain stream, and watched the water as it comes coursing over the rocks?

How quietly it flows until it meets a boulder in its pathway! Then it scolds and roars and protests, and dashes the spray into a



thousand bead-like jets against the rock as though to remove it from its course. But what influence has its puny force when pitted against the mighty obstacle? Finally it sinks down, apparently exhausted, and for a short distance moves calmly down the stream. No useless expenditure of force then; no unnecessary loss of power. But look! Another declination, more boulders, and the same bounding, writhing and dashing is seen as before; and it is of no avail.

We say the stream is foolish; how about ourselves? Do we not at times blindly and uselessly expend our energies beating against the rock that lies in our pathway, when perhaps God himself placed it there for some wise purpose. We would better be studying ways and means of getting over and around the difficulty. Our Heavenly Father will carry us over any boulder, or tenderly lead us around it, if we but ask him.

It is not what we learn, but the knowledge we make use of; not what obstacles are in the way, but how we surmount them, that makes us a useful woman, or a nonentity in the world. ELLA BARTLETT SIMMONS.

WITCH APRIL

Come with me, and sing with me, for April is at hand;
Let us hasten far away and look out o'er the land;
Bees will he a-straying now
Down the quiet hollow;
Don't you hear the water—how
It cries, "Follow! follow!"
"Brown bee, belted bee, whither are you going?"
"Down the steep and rocky ways where the streamlet's flowing."

Come with me, O heart that's hlithe, for spring is here at last,
Hear the chorus in the wood and know that April passed;
Wild is she with laughter,
Hear it in the hollow.
Oh, we will hasten after,
For she cries, "Follow! follow!"
"April, witch April, wait, for we are going
Down the hollow, down the ways where the water's flowing."

Her hair is like the crocus-hud, her eyes are violet blue,
Her cheeks are like the peach-bloom, her lips are ruddy, too;
The flutter of her garments shows them green and shows them white,
And to-morrow they'll be azure, for she changes robes at night.
Her voice it is so joyous it wakes me from my sleep;
I scarcely know, when hearing, if I should laugh or weep.
She mocked me thus in childhood—she mocks me once again;
Oh, April sweet has come once more to gladden hearts of men!

Come with me and sing with me to catch this hoiden witch—
See! she hides behind the hedge that flanks the swollen ditch.
Swaying are the willows now—
She flits down the hollow;
Loud and mocking cries she—how
We may follow, follow.
Tear-drops shine on violet-leaves where she passed them flying;
Witch maid, wild maid, I fear thou art sighing.
—E. C. H.

EASTER DAINTIES

EASTER PUDDING (A dainty dessert for the Easter dinner).—Put one pint of new milk in a granite saucepan, dissolve six tablespoonfuls of corn-starch in a little cold milk, and stir in; let thicken, add a small teacupful of sugar, take from the fire, and flavor with vanilla. Have a dozen or more egg-shells emptied, fill with the mixture, and stand in a pan of meal or bran, and set on ice to harden.

Make a quart of gelatin jelly, flavor with lemons. Turn a soup-plate upside down in the bottom of a round tin pan, pour the jelly over, and set in a cool place.

Cut the peeling of two or three large lemons in narrow strips, dip in thick syrup while warm, and lay on greased paper to harden. When the jelly is firm, turn it out on a large round glass dish, remove the plate carefully, fill the space around the edges with the strips of candied lemon, to represent straws; heap whipped cream in the center for feathers. Peel the shells carefully off the corn-starch eggs, arrange them in the nest, and set on ice until very cold. Serve in glass saucers, with white cake.

BUTTERCUP JELLY.—Dissolve a package of gelatin in cold water. Heat a quart of milk, and stir in it the gelatin and a pound of sugar. Divide the mixture, flavor one pint with vanilla. Stir the beaten yolks of three eggs into the other pint, and flavor with lemon. Let the jelly harden in separate pans, turn the white out on a large flat dish, cut the yellow jelly into little buttercups, arrange on the dish over the white jelly, drop spoonfuls of whipped cream around, and serve very cold.

ORANGE BASKETS (For an Easter party).—Select a dozen oranges of uniform size. With a very sharp knife pare off the thin outer surface. Cut two quarters out of the upper part of each orange, so as to leave a narrow band to form a handle; run the knife around inside the band so as to remove all the pulp. Take out the remaining pulp so as not to injure the shape of the basket. Drop the orange baskets in cold water first, then in boiling water, and let simmer gently for three or four minutes. Take up, drain, and cut pieces from the orange-skins, so as to give a basket effect. Have a weak syrup of sugar and water in a preserve-kettle, drop the little baskets in this, and let boil very gently until clear; then set aside in the syrup until the next day. Take them up, drain, let dry, and fill with grated coconut, chopped bananas or quartered oranges. Arrange on a large glass dish, pour syrup over them, and set in the center of the table.

EASTER CAKE.—Cream three cupfuls of sugar and one of butter together, add four cupfuls of flour, half a cupful of corn-starch, two teaspoonfuls of baking-powder and the beaten whites of two eggs. Flavor with extract of almond. Turn into a large cake-mold, and let bake for one hour. When done, turn out carefully. Ice with white frosting or ornament the center with a candy rabbit, and arrange colored candy eggs around. ELIZA R. PARKER.

BATTENBERG DOILY

This charming Battenberg doily is easily and quickly made, and can be put to many uses. At Christmas it figured as a pin-cushion top. Two circles of pink satin the size of the doily were lined with muslin and



joined together with a two-inch strip of muslin that had a three-inch strip of satin sewed to it in the form of a very full puff. The cushion was filled solidly with fine sawdust, and the puff around the sides pulled into shape. The doily was then sewed into place with fine thread. It was very dainty and easily made. I prefer to make the rings

that I use in Battenberg lace. For the size used in this doily wind eighteen times around a lead-pencil with No. 60 bleached linen thread, and then work closely with buttonhole-stitch. The stitches used are all twisted bars, and I use the same thread as for the rings. The doily requires two yards of braid and twelve rings.

MAY LONARD.

ROSE IN SPIDER-WEB WHEEL

ABBREVIATIONS.—Ch, chain; tr, treble; st, stitch, and s c, single crochet.

Ch 8; join.
First row—Ch 7, tr in ring; (ch 4, tr in ring) five times; ch 4, slip st in third st of 7 ch.

Second row—1 s c, 3 tr, 1 double tr, 3 tr, 1 s c under each 4 ch.

Third row—Ch 5, fasten with slip st back of and between the next two leaves. Repeat all around.

Fourth row—1 s c, 4 tr, 1 double tr, 4 tr, 1 s c under each 5 ch.

Fifth row—Ch 10, tr in top of double tr of first leaf. * Ch 6, double tr between first and second leaves, ch 6, tr in top of double tr of second leaf *. Repeat from * to * to top of last leaf, then ch 6, slip st in fourth st of 10 ch.

Sixth row—8 s c under each 6 ch.

Seventh row—* 2 knot st, slip st in eighth st *. Repeat from * to * around the wheel, making in all twelve points of two knot st each.

Eighth row—1 knot st, slip st in top of first point, * 2 knot st, slip st in top of next point *. Repeat from * to * around the wheel. MARY E. BURNS.

IN TIMES OF SUDDEN ILLNESS

Health had favored me so many, many years I had felt that I never could be ill. Indeed, some members of the family had gone so far as to make remarks like these: "We aren't a family who ever get sick." "We never have diseases and fevers in our family." "We can take pretty good care of ourselves and avert illness." So in consequence, when sickness did prostrate us, we were quite unprepared for it. No one could find pieces of flannel and blankets, very much needed; the hot-water bottles were all out of gear, one leaked, and the stopper to another could not be found; little remedies that I had always kept up for years had been allowed to run out; others, of which I had plenty, were stowed away in unrecognizable packages or boxes, and so new were bought. When it came to convalescing, not a suitable garment could be had to put on. I determined another illness should never catch us so. In times of peace the government prepares for war, and in times of health every house should be prepared for sickness, so I instituted the "hospital trunk." In it I put rolls of nicely arranged pieces of old muslin and linen, several pairs of natural-wool socks and white hose, which I picked up cheap at sales of samples, a package of antiseptic cotton, six beautifully made short night-gowns of material easily laundered, two long gowns of outing-flannel, made double to the waist and trimmed with lace and ribbon, three squares of old flannel for wrapping the neck or chest, two chest-protectors, two shawls of white wool, to throw around the shoulders when sitting up, an extra comfort of silkoline tied with ribbons, six tray-cloths and a dozen fringed napkins, a dozen plain pillow-slips, with a hem and a little lace edge, and a dozen sheets. Twice a year these should be laundered if not used. It is a case of "Be ye ready, for at a time when ye think not" sickness and death may find you unprepared. In the medicine-closet a line of remedies, consisting of camphor, arnica, colorless iodine, chlorate of potash, witch-hazel, ammonia, alcohol, vaseline, whiskey, valerian, aconite, surgeon's plaster, prepared mustard-leaves, and such things, should always be ready for instant use. Having things in one place all together, you can send even a stranger to it, and he can readily get what is wanted; but to be obliged to look through numberless receptacles for things in a neighbor's house is very embarrassing.

Any one will feel repaid from the responsibility of worrying where to find things if a little forethought has been exercised in time of health. BELLE KING.

[CONCLUDED ON PAGE 12]

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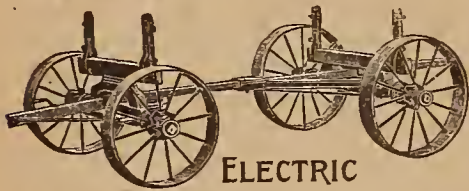
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GIRL STUDENTS IN MADRID

MRS. ALICE GORDON GULICK, who received such warm words of commendation from Admiral Cervera, as well as the decoration of the red cross, in appreciation of her work among the Spanish prisoners at Portsmouth, has worked as an evangelist for twenty-three years in Spain, and is at the head of the International Institute for Girls, in San Sebastian. Graduates from this school were the first women to be honored with degrees of B.A. and M.A. from the Madrid University since Queen Isabella's time, three hundred years ago, when women occupied chairs in the University of Spain.

Two of these girl students, with their teacher, a graduate from Wellesley, desired to attend a lecture in the School of Pharmacy



and Medicine, Madrid. They went early in the morning, and finding the old porter sweeping out the hall, asked if they might see the professor.

"It is impossible, impossible," he cried, aghast; "no woman ever comes here."

They next turned to an assistant who happened to be passing through the hall. He evidently had his doubts about the matter, but said he would speak to the professor. Presently they were ushered into the presence of the professor, who was walking back and forth, quite wild with excitement over this unusual event.

"It is impossible!" he cried, waving his hands. "We have no women here. I do not believe in co-education, and medicine and pharmacy are not for women. No, no, it is impossible!"

"But, professor," urged the young women, "neither do we believe in co-education. We have our own school in San Sebastian, and only wish to hear you, to hear one lecture, so that we may learn your methods."

"Well, you may come once," yielded the professor, reluctantly; "but not to-day, not to-day. I must first prepare the boys."

What the preparations were no one of course knew, but the next day, when the young ladies entered the lecture-room, every student arose as if shot out of his seat, and remained standing respectfully until the young ladies were seated, when, as abruptly, they plumped down again. During the whole lecture by not a word or gesture did they disturb the serenity of the young ladies in any way. Their behavior was faultless. When the lecture was over, however, and the young ladies prepared to go home, they found outside of the door a long line of students drawn up in waiting on either side of the walk as far as eye could reach. They stepped out instantly, thinking



innocently that when they reached the end of the line the ordeal would be over.

"Long live our fellow-students!" shouted the young men, waving their caps in the air, and throwing caps, cloaks and canes at the girls' feet, and the girls walked over them. When the girls reached the end of the line the students, singing national airs, turned and walked still on either side of them, stopping carriages and disturbing all the traffic of the street. When they reached an open square the girls, thinking to escape, entered a tram-car, but some of the students instantly jumped on their car and paid their fare; then the whole line marched on either side of the car, disturbing the street traffic and amazing the peaceable inhabitants of the city more than ever.

The next day the papers rang with the story of these girl students; every one talked of it, and echoes of these stories penetrated even into the royal palace. Queen Christina is a good woman, who has done much for the poor of Spain, but she has never been interested in the higher education of Spanish

women. It is hoped that the story of these girl students may lead to awakening her interest. **FRANCES BENNETT CALLAWAY.**

FOR THE DRESSING-TABLE

A pretty addition to the dressing-table is a decorated scarf of linen laid through the middle of the table. It takes half a yard of round-thread linen to make two. Finish all around the edge with a small hem by hand. Then stitch three straight lines all around it at short intervals with No. 18 Turkey red cotton. Work the flowers in white filo in long and short stitches, making the dots in the red, and also outlining the flowers in it when they are done.

LAMP-MAT.—With the universal use of lamps the pretty lamp-mat is much in use, and requires half a yard of green canvas linen. The pointed edge is done in honeycomb-stitch with dark-green filo, using two threads in the needle at once. The inner border is a feather-stitch, using three strands of filo at once. The large points coming over the herring-bone is worked right on it, and is a lighter shade of green. The edge of the mat is a close buttonhole-stitch over a fine cord, carried around with the working. When finished, press carefully, and then baste over a thin piece of soft silk of a pale rose color. **BELLE KING.**

CHICKEN TAMALES

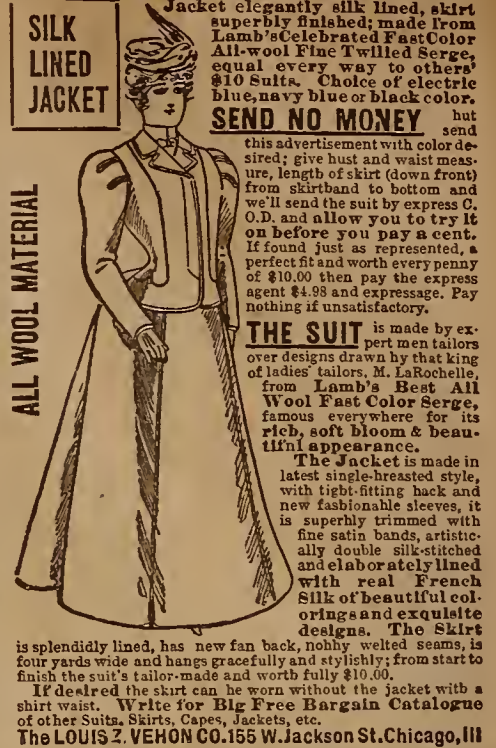
To make chicken tamales, boil two pounds of corn and a handful of lime in water enough to cover until the skins of the corn will slip off; then wash the corn and grind it very fine. Boil a large chicken, and mix the liquor in which the chicken was boiled with the ground corn, adding a pound of firm lard and salt to taste. Having boiled a pound of red peppers until soft, remove the seeds and mash the peppers to a pulp; add a garlic-butter (chopped) and one half a pound of ground chillies. Mix this preparation with the chicken. Fill wet corn-husks (inner husks) with the mixture, alternately with the meal and chicken, tie up, and boil from forty-five minutes to one hour in a gallon of water. When all are half done turn the top ones over. This mixture will make a dozen "hot tamales." Serve hot, with the husks opened, and the tamales piled on a napkin.

A more simple process is to use a quart of scalded corn-meal instead of the hulled corn, and a lump of butter the size of a walnut instead of the lard. In this case take a lump of the dough, pat it out into a thin, flat cake, put one spoonful of the above chicken mixture on it, roll them together, then roll the tamale tightly in the corn-husks; tie the ends of the shucks together in a knot to keep the tamales from coming open; these need to boil only about twenty minutes. **MRS. W. L. TABOR.**

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The newest thing in pincushions is a yard long, and lays across the dressing-case like a bolster. A cushion resembling a long sausage can be bought at a fancy-store or can be made at home. This is covered with silk of any desired shade, and over the silk is India muslin embroidered with flowers to correspond. A puff of silk covered with lace is sewed around the cushion and finished with narrow ribbon run through a beading, and tied in full bows at the ends. A cushion

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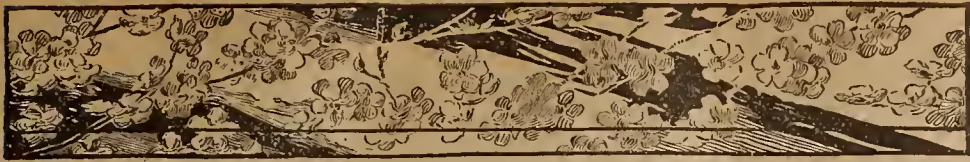
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Marshall, G. Mary, N. Ohmer, Sanford, BERRY 10 for 15 cents. **MAIL STRAW PLANTS** 40 (10 Ea) 55 cents. **MAIL 40 VARIETIES. LIST FREE. FINE POULTRY WICK HATHAWAY, Madison, O.**



A DEAD-SEA APPLE

By *Virna Woods*

Author of "The Amazons," "A Modern Magdalene," "Jason Hildreth's Identity," "An Elusive Lover," etc.



CHAPTER II.—CONTINUED

THE room was furnished plainly with a large reading-table, several cane-seated rockers and a set of straight-backed chairs. But a piano stood in one corner, and from the center of the ceiling was suspended a hanging-lamp. The floor was covered with worn matting, with rugs of braided rags at the doors. There were green shades at the windows and a wire screen at the open front door. The walls were without decoration save for a solitary etching in a painted pine frame. The table was littered with San Francisco and Sacramento papers, and he turned instinctively away, but glanced back, his eye arrested by the paper cover of a foreign magazine.

"Perhaps I have made a mistake, after all," he muttered. "If they read such things, it is not the untutored wilderness I desired."

At this moment a woman entered the room. He knew at once it was the girl's sister, although she was plumper and had round and rosy cheeks. "I shall have to take you up-stairs myself," she said, "as Mr. Parker is not in."

He followed her up the uncarpeted stairway. The large hall, threaded with a strip of woven rags, divided at right angles. One section extended the width of the building, and showed through the open doorways a succession of small and scantily furnished rooms. The other led to a door that opened on the veranda roof. On one side a closed door baffled his curiosity; on the other was a large parlor facing the front, furnished with haircloth chairs and sofa, a marble-topped center-table, framed woodcuts, a large American plate-mirror and an ingrain carpet. He had caught only a glimpse of these things when Mrs. Parker opened the door of a small room back of the parlor.

"Will this do?" she asked. "It is the best I have."

The ingrain carpet and the woodcuts of the parlor were repeated, and the furniture was plain. But the muslin curtains at the window were freshly laundered, and a potted fern stood on the broad sill.

"It will do very well," he assured her. "If you were going to stay some time," said Mrs. Parker, doubtfully, "Veva might give up her room. It is larger and better furnished than this."

"Do you mean the young lady?" he said, quickly. "I could not think of such a thing. The room is large enough, and if I want anything more I can send to the city for it."

"You intend to stay with us some time, then?" Mrs. Parker inquired, almost eagerly. It would be something to have a guest like that in the house, a break in the monotony of existence.

"Probably," was the response. "I do not know."

"What is the name?" she asked.

"Bland—Theodore Bland," he said, hurriedly. "You have lunch?"

"At twelve," she replied. As she turned away he closed the door, and crossing the room stood looking out the window at the stage stable and the blacksmith-shop that faced the side of the hotel.

"She has the face of a Madonna," he muttered. "But I, good God! what am I that I should dare to look at her?"

It was not of Mrs. Parker that he was thinking.

CHAPTER III.

The next morning, as Mrs. Parker sat in the sitting-room mending a torn frock of Babens', she saw the strange guest cross the veranda and turn up the village street. Five minutes later the postmaster's wife appeared at the open door, a bundle of sewing in her hand. She entered at Mrs. Parker's greeting, and dropped heavily into a rocking-chair. She was a large, fair woman, with gray curls at each side of her head, in the style of a past generation. It was said that she had never abandoned the coiffure she had worn when she was a girl. She opened her bundle, and unrolling a narrow strip of cantrac, began to hem.

"I see there's a stranger in town," she observed. "Yes," replied Mrs. Parker. "He came last night."

"From Sacramento?" continued the visitor.

"I suppose so, Mrs. Leonard," replied Mrs. Parker, smiling, "but I really don't know how much farther he may have come."

"Do you mean to tell me, Dora Parker," demanded Mrs. Leonard, letting her sewing drop in her lap and peering at her companion over her steel-rimmed glasses, "do you mean to tell me that you didn't ask him?"

Mrs. Parker laughed.

"Of course I didn't; why should I?" she said.

"Well, I want to know!" ejaculated Mrs. Leonard, lapsing into the vernacular of her early speech, learned before the gold excitement that had brought her to California. "He wouldn't have been in my house this long without my knowing that much about him. I wonder if he's from the East? He doesn't look it exactly; and yet he

seems strange, as though he wasn't a Californian. I wonder what brought him to Lupine Springs?"

"I really can't tell you, Mrs. Leonard," said Mrs. Parker, dryly. "He has not made a confidante of me."

"What did you say his name is?" queried the visitor, disregarding the sarcasm of her companion's speech.

"I didn't say," replied Mrs. Parker; "but it is Bland—Theodore Bland."

"So you did find out something," said Mrs. Leonard, again looking up over her glasses. "But I'll warrant you asked him."

"Well, so I did," responded Mrs. Parker, laughing; "and that is really all that I know about him."

"That's something, anyway," said Mrs. Leonard, making a mental note of the name, that she might tell her husband to watch for his mail and look at the postmarks. "Is he going to stay long?"

"He doesn't know," said Mrs. Parker. "He may stay some time. He said if he wanted any-



A FAMILIAR FIGURE SEATED WITH BACK TOWARD HIM

thing more in his room he would send to the city for it."

"Humph!" observed Mrs. Leonard; "he must have money. So the room isn't good enough for him, isn't it?"

Mrs. Parker flushed.

"I would judge from his appearance that he has been used to better," she answered, quietly.

"Going to send to the city for more things," said Mrs. Leonard, musingly. "I'd like to see them when they come."

She had settled herself back in her chair to await the stranger's return and "get a good look at him," as she phrased it to herself, even if she failed in the attempt to speak to him. She secretly determined to "find out about him" before she went to bed at night, if human ingenuity could compass that end.

Meantime the object of her curiosity had sauntered along the railroad through the town, leisurely taking in the details of the quiet scenes. The place just now, however, was at the flood-tide of its activity, the grape season being at its height. Within a few miles of the village were some of the largest vineyards of the state; and the county itself lay over a magnificent stretch of territory that extended from the valley through the fruitful foot-hills to the high Sierras. Lupine Springs, being the terminus of the railroad to Sacramento, was the center through which the county produce must pass to reach the eastern markets. Even the county-seat, Minerville, boasting a population of several thousand, and once the metropolis of the state, was still on a stage-line, and separated from the railroad by ten miles of precipitous ascent to the mountains. It was, therefore, not

strange that Bland should pass several freight-trains loaded with grapes, the blue-black of the Mission and the Hamburg being relieved by the luscious white of the Muscat and the beautiful pink of the Tokay.

The ticket-agent, a dark, refined-looking man of middle age, stood on the depot platform, regaling himself with some of the fruit.

"Have a hunch?" he said, genially, extending to Bland a magnificent cluster of Tokay.

"Thank you," said Bland, looking curiously at the bunch as he held it out in his hand. "It is so beautiful it seems a pity to eat it."

"Ah!" said his companion, carelessly; "you are not a Californian, then?"

"I know little of country life," laughed Bland, evasively. And he began to question the agent about the amount of shipping from the town.

As he sauntered on his way a few minutes later he passed the freight-agent, who was standing outside his office eating grapes. Glancing across the street he saw the men at the doors of their stores engaged in the consumption of the ubiquitous edible. Even the children at play on the street were staining their fingers and clothes with the fruit; and the passers on the track, which seemed to be the favorite highway of the village, helped themselves freely from the loaded cars without exciting notice or comment.

In a few minutes the stranger had passed the line of freight-sheds and come out at the upper end of the town. Here the railroad track he had been following wound around a curve by the upper hotel, and was lost to sight. He left it for the school-house hill, whose pine-clad slope rose above

added, looking at her gravely. "Did you study at the Sacramento art school?"

"Oh, no," she said; "I have never really studied. We had a teacher here once that could draw a little, and she taught me what she knew. But the work has always been a pleasure to me."

He looked at her curiously. To do such work without instruction, he said to himself, she must almost have genius. "Have you ever tried faces?" he asked, seating himself on the ground beside her.

"A few," she said, "but no ideal ones; only the people I have seen here."

"You prefer landscape, perhaps?" he continued.

"No," she replied, "I don't; but it is a little easier for me. Some time I am going to copy this."

As she spoke she drew from the blank book that served as sketch-book a calendar, on which was a small engraving of Lautenstein's "Cradle Song."

"There is such a variety of expression here," she said. "No two of the cherubs are in the least alike, and the mother's face is beautiful. The child, too, is sweet; but my favorite is the cherub with the harp. If I could paint him as I would like to I would be bappy."

"I am familiar with the picture," said Bland. "It is very beautiful."

A moment more and he was talking to her of the art treasures of Europe. She listened entranced, wondering at the breadth of his culture and his ease of speech. He talked to her of Dresden and Paris and Rome, of their wonderful galleries and frescoed churches, and of the people that throng their streets. He told her of his sea-voyage home and the terrible storm that almost wrecked the ship, and her heart contracted with a strange pain at thought of the danger that was past.

Almost without realizing it she began to tell him all about her own life, its quiet monotony and the aspirations for broader experiences and higher planes of thought than she could find in her environment.

"Only the hills save me from positive discontent," she concluded, smiling. "How can I be really unbappy when I have their glory to look on every day and these sweet pine woods to dream in?"

As they rose at last and walked back together through the village they did not know that it was nearly noon and more than two hours since Bland had left the house. But Mrs. Leonard, watching them over her glasses as they came leisurely down the street, knew to a minute how long they had been gone. The man lifted his hat as they reached the veranda, and would have gone on to his own room, but Mrs. Leonard's ample figure suddenly blocked the way.

"How warm you are, Veva!" she said, looking at the girl's flushed face. "You must have had a long walk."

"Not very long," said Veva, smiling. Then, as Mrs. Leonard made no sign of moving, she gave her the introduction she coveted.

"Of course you are a stranger here," Mrs. Leonard said to the new-comer. "May I ask where your home may be?"

"I have no home," said Bland, smiling; "I am afraid I am nothing but a citizen of the world."

"But I meant where have you been staying?" persisted Mrs. Leonard. "Where did you come from when you came here?"

"Oh!" he responded, carelessly. "I came up from Sacramento yesterday. What a beautiful view you have from here, Mrs. Leonard! I think we must get Miss Gladding to paint it for us some time." And with a smile he had passed into the sitting-room and through the hall up the stairs, leaving his interlocutor standing disconcerted in the doorway.

"Well, I declare!" said that estimable lady, turning to Veva. "He doesn't seem to want us to know where he came from. Came from Sacramento, indeed! How could he get to Lupine Springs without coming from Sacramento? But perhaps he told you where he lived," she added, looking at the girl suspiciously.

"Oh, no," laughed Veva. "In fact, I didn't ask him. But he has been in Europe. He was telling me about the art-galleries there."

"That's what kept you so long, is it?" said Mrs. Leonard. "Well, I must be going. I've got a new freezer, and I'll make you some ice-cream if you come up some afternoon, Veva."

"And tell you all about Mr. Bland," the girl mentally added, as she went into the house.

Meantime Bland had gone up the stairs. He did not stop at his own door, but went on to the veranda roof, thinking to find it cooler than his room. As he passed through the hall he noticed that the door of Veva's room was ajar, and obeying a sudden impulse, he paused and looked in.

The most striking thing about the little apartment was its utter contrast to the rest of the house. It was a pretty retreat that the girl had evidently created for herself, from the sordid commonplace of its surroundings, and in it the artistic sense of her nature had doubtless found its sole expression. The carpet was soft in texture and color, and the muslin curtains were bordered with a delicate Spanish drawn-work that had probably been done by her own hands, as a half-finished tray-cloth of the same pattern lay in her manzanita work-basket, with a dainty bit of silk embroidery. There was a shelf of books, and papers and magazines were scattered over the tables. A guitar leaned against the wall, and a sheet of music lay open on a rack beside it. Several mounted sketches in charcoal and pastel hung on the walls and stood on the tables, and two or three pots of fern brightened the broad, low window-sill. A little bamboo secretary stood open, and a willow rocker was placed invitingly by the window. The white-draped bed and the daintily covered dressing-table completed the simple furnishings of the room. There was no disorder in the place, but it lacked the prim, set regularity that distinguished the rest of the house, and showed like a mirror the pastimes and daily life of its occupant.

him at the right, and began to climb. The hook that showed above his pocket gave evidence of the way he had planned to pass the morning. The exercise and the interest in new scenes had lent animation to his expression, but his face was still grave to sadness, and the restlessness had not gone from his eyes, although the furtive glances had given place to careless inspection of the sweep of pine-clad hills and purple mountains massed against the deep blue sky.

He had penetrated the forest, and drawing out his book, was about to throw himself down on a pile of fragrant pine-needles, when he was arrested by the glimpse of a familiar figure seated with its back to him a little distance ahead, where the trees broke apart, opening out a view of misty mountains and snow-capped peaks beyond. It was the young lady he had met for the first time the day before, and at the instant of recognition a strange warmth stirred his heart.

She was sitting on a pile of dry pine-needles sketching the scene before her. As he approached his footsteps made no sound in the grass, and she did not discover him before he had caught a view of the half-finished picture, sufficiently clear to surprise him with the excellence of her work.

"Good-morning," he said, lifting his hat as she turned at the words. "May I see the sketch?"

"It is nothing," she replied, flushing as she handed him the picture.

"You will excuse me if I do not agree with you," he said. "I think it is something very good, and I have been considered a judge of such work."

"You are an artist?" she asked, looking up.

"No," he replied, "only a student of art and something of a critic. You have great ability," he

The girl sat still, quivering with the pain of disappointment and the shame of having betrayed her secret to his eyes. Tears dropped on the little hands clasped tightly in her lap.

There was a pattering of feet at the door, and Babens came into the room. She went up to the bowed figure, and clung into the girl's lap, nestled against her breast.

"Why, Aunt Veva!" she exclaimed, in childish wonder, "you cryin'."

"Hush, dear," said Veva, gently; "it is only a headache."

But she pressed the child to her passionately, and laid her cheek on the sunny little curls.

"Babens, Babens," she moaned, "will you grow up some time to suffer as I do?"

But the heart of the young is buoyant. Before she saw Bland again she had explained his silence.

"He is only trying me a little," she said to herself. "After while he will surely speak, for his eyes have already spoken more than words."

But the happiness seemed too great to be realized, and she wondered, with a presentiment of evil, how she had deserved it.

That evening as she sat by the open parlor door, lightly thrumming the strings of her guitar, he came and seated himself by her side.

"I have been overhauling my box of books," he said, "and I found this for you."

He handed her a large volume bound in morocco and gold. On the back was embossed the title, "The Madonnas of Raphael." She lifted the cover, and saw her own name on the fly-leaf. Flushing with delight, she looked up in his eyes. He was smiling at her pleasure, a sudden tenderness in the look.

"You are too good to me," she said, beginning to turn the leaves of the book.

"I am glad if I may add even a little to your happiness," he replied.

Then he began to explain the engravings and to tell her the galleries in which he had seen some of the paintings.

She paused the longest at the last of the pictures, the Sistine Madonna. She had never seen it before.

"I like this the best," she said.

"I am glad of that," he replied, thrilled with a deep sense of sympathy. "It is the most beautiful thing in the Dresden gallery."

The full moon had risen over the hills and thrown across the room a broad stream of light that softly illuminated the girl's face and silvered the white draperies of her dress. Without, the witchery of the night lay on the misty hills and the purple mountains with their drift of snow-peaks against the sky. Suddenly it seemed to the man that the little village and all the noisy cities beyond had been swept away, and that they two were alone together in all the world.

"Sing to me," he said, lifting the guitar and placing it in her hands.

The men sitting on the veranda below ceased their idle talk and musingly watched the blue smoke curl from their pipes as the sound of her voice floated down through the open door.

So the time passed, and day by day and night after night the dream went on; and in the calm of the moonlight and the pine-clad hills the spell of silence was unbroken. But Veva began to droop like a flower in the sun, and in her eyes was a wistful expectancy that was almost pain.

[TO BE CONTINUED]

STAR DISTANCES

In the calm and silent hours of beautiful evenings, what pensive gaze is not lost in the vague windings of the Milky Way, in the soft and celestial gleam of that cloudy arch, which seems supported on two opposite points of the horizon, and elevated more or less in the sky, according to the place of the observer and the hour of the night? While one half appears above the horizon the other sinks below it, and if we removed the earth, or if it were rendered transparent, we should see the complete Milky Way, under the form of a great circle, making the whole circuit of the sky.

Let us point a telescope toward any point of this stupendous arch. Suddenly hundreds, thousands of stars show themselves in the telescopic field like needle-points on the celestial vault. Let us wait for some moments, that our eye may become accustomed to the darkness of the background, and the little sparks shine out by thousands. Let us leave the instrument pointed motionless toward the same region, and there slowly passes before our dazzled vision the distant army of stars. In a quarter of an hour we see them appear by thousands and thousands. William Herschel counted three hundred and thirty-one thousand in a width of five degrees in the constellation Cygnus, so nebulous to the naked eye. If we could see the whole of the Milky Way pass before us we should see eighteen millions of stars.

Thought travels fast—faster than a comet, faster than light. A rushing comet would, it is believed, take twenty millions of years to cross the chasm between the nearest known fixed star and us. Light, flashing along at the rate of about one hundred and eighty-six thousand miles a second, will perform the same journey in four years and a third. But thought can overleap the boundary in less than a single moment.

Light, which comes to us from the sun in eight minutes and a half, takes over four and a third years to reach us from Alpha Centauri. From this four-years-and-a-third length of journey between Alpha Centauri and earth the numbers rise rapidly to twenty years, fifty years, seventy years, even hundreds of years. The distance of most of the stars is completely beyond our power to measure. The whole orbit of our earth, nay, the whole wide orbit of the far-off Neptune, would dwindle down to one single point if seen from the greater number of the stars.

The nearest star to us reigns at a distance of 275,000 times our distance from the sun; out to that star an immense desert surrounds us, the most profound, the darkest and the most silent of solitudes.

The solar system seems to us very vast; the abyss which separates our world from Mars, Jupiter, Saturn and Neptune appears to us immense; relatively to the fixed stars, however, our whole system represents but an isolated family immediately surrounding us—a sphere as vast as the whole solar system would be reduced to the size of a simple point if it were transported to the distance of the nearest star. The space which extends between the solar system and the stars, and which separates the stars from each other, appears to be entirely void of visible matter, with the exception of nebulous fragments, cometary or meteoric, which circulate here and there in the immense voids.

Nine thousand two hundred and fifty systems like ours, bounded by Neptune, would be contained in the space which isolates us from the nearest star!

It is marvelous that we can perceive the stars at such a distance. What an admirable transparency in these immense spaces to permit the light to pass, without being wasted, to thousands of billions of miles! Around us, in the thick air which envelops us, the mountains are already darkened and difficult to see at seventy miles; the least fog hides from us objects on the horizon. What must be the tenuity, the rarefaction, the extreme transparency of the ethereal medium which fills the celestial spaces!—From "The Story of the Sun, Moon and Stars," by Agnes Giberne.

THE WHITE MAN'S BURDEN

[By courtesy of "McClure's Magazine." Copyright, 1899, by Rudyard Kipling. All rights reserved.]

Take up the White Man's burden—
Send forth the best ye breed—
Go, bind your sons to exile
To serve your captives' need;
To wait, in heavy harness,
On fluttering folk and wild—
Your new-caught sullen peoples,
Half devil and half child.

Take up the White Man's burden—
In patience to abide,
To veil the threat of terror
And check the show of pride;
By open speech and simple,
An hundred times made plain,
To seek another's profit
And work another's gain.

Take up the White Man's burden—
The savage wars of peace—
Fill full the mouth of Famine,
And bid the sickness cease;
And when your goal is nearest
(The end for others sought)
Watch sloth and heathen folly
Bring all your hope to nought.

Take up the White Man's burden—
No iron rule of kings,
But toil of serf and sweeper—
The tale of common things.
The ports ye shall not enter,
The roads ye shall not tread,
Go, make them with your living
And mark them with your dead.

Take up the White Man's burden,
And reap his old reward—
The blame of those ye better,
The hate of those ye guard—
The cry of hosts ye humor
(Ah, slowly!) toward the light;—
"Why brought ye us from bondage,
Our loved Egyptian night?"

Take up the White Man's burden—
Ye dare not stoop to less—
Nor call too loud on Freedom
To cloke your weariness.
By all ye will or whisper,
By all ye leave or do,
The silent, sullen peoples
Shall weigh your God and you.

Take up the White Man's burden!
Have done with childish days—
The lightly proffered laurel,
The easy ungrudged praise:
Comes now, to search your manhood
Through all the thankless years,
Cold, edged with dear-honored wisdom,
The judgment of your peers.

HOW JAPANESE WOO

Japan is a long way off, and this charming story of how courtships are carried on among the elite of their society comes to us from this far-away land.

In certain districts, in houses wherein resides a daughter of marriageable age, an empty flower-pot is encircled by a string and suspended from a window or the veranda. Instead of serenades by moonlight and other delicate ways of making an impression it is etiquette for the Japanese lover to approach the dwelling of his sweetheart bearing some choice plant in his hand, which he reverently proceeds to plant in the empty vase. This takes place when he is fully aware that mother and daughter are at home.

This act of placing a plant in the flower-pot is equivalent to a formal proposal to the lady of his choice. The lover having settled the plant of his mind, retires, and the lady is free to act as she pleases. If he is the right man, she takes every care of his gift, waters it and tends it carefully with her own hands, that all may see that the donor is accepted as a suitor. But if he is not the favorite, or if the stern parents object, the poor plant is torn from the vase, and the next morning lies limp and withered on the veranda or in the path below.

FINE SILVERWARE FREE

THIS SILVER-PLATED WARE can be used in cooking, eating and medicines the same as solid silver. The base of this ware is solid nickel-silver metal, and being perfectly white and hard it will never change color, and will wear a lifetime. This ware will not, cannot turn brassy, corrode or rust. We absolutely guarantee that each and every piece of this ware is plated with the full STANDARD amount of pure coin-silver. In beauty and finish it is perfect.

FULL SIZE

All of the ware is full regulation size. Dessert-forks are specially designed for cutting and eating pie, and dessert-spoons are proper spoons with which to eat soup.

GUARANTEE

We guarantee every piece of this ware to be exactly as it is described and to give entire satisfaction or money refunded.

Will Stand Any Test To test this silverware use acids or a file. If not found to be plated with the full standard amount of pure coin-silver and the base solid white metal and exactly as described in every other particular we will refund your money and make you a present of the subscription. If returned to us we will replace free of charge any piece of ware damaged in making the test.



INITIAL LETTER Each piece of this ware (except the knives) engraved free of charge with an initial letter in Old English. Only one letter on a piece. Say what initial you want.

The base of the table-knives is fine steel highly polished. They are first plated with nickel-silver, which is as hard as steel, then plated with 12 pennyweights of coin-silver. The best silver-plated knives on the market. For want of space pictures of the Gravy-ladle, Berry-spoon, Pie-knife and Child's Set are not shown here, but they are all of the same design and full regulation size.

ARISTON SILVER POLISH

Is absolutely chemically pure—free from mercury, acid, ammonia, grit, or other injurious substance. It is the only material which cleans and polishes silverware perfectly at the same time. A child can use it. Comes in quart packages—enough to last the average family for several years. Never loses its strength. Try it, and if you don't think it the best and cheapest polish you ever used or can buy anywhere else we will refund your money and let you keep the polish. A quart package of Ariston Silver Polish will be sent to any address for 25 cents, or will be given free to club-raisers for sending TWO extra names in a club.

PREMIUM OFFERS

We will send the Farm and Fireside one year and the Silverware to any one at the following prices:

Farm and Fireside 1 year and a Set of 6 Teaspoons for	.75
Farm and Fireside 1 year and a Set of 6 Forks for	1.25
Farm and Fireside 1 year and a Set of 6 Tablespoons for	1.25
Farm and Fireside 1 year and a Set of 6 Knives for	1.75
Farm and Fireside 1 year and a Set of 6 Coffee-spoons for	.75
Farm and Fireside 1 year and a Set of 6 Dessert-spoons for	1.00
Farm and Fireside 1 year and a Set of 6 Dessert-forks for	1.00
Farm and Fireside 1 year and Berry-spoon for	.60
Farm and Fireside 1 year and Pie-knife for	.60
Farm and Fireside 1 year and Gravy-ladle for	.60
Farm and Fireside 1 year and Butter-knife and Sugar-shell (both) for	.50
Farm and Fireside 1 year and Child's Set (A small Knife, Fork and Spoon) for	.60

(When any of the above offers are accepted the name may be counted in a club.)

SILVERWARE FREE

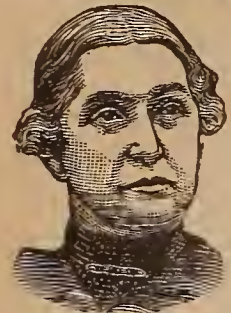
For Clubs of Subscribers to the Farm and Fireside

- Set of 6 Teaspoons given free for a club of four subscribers.
- Set of 6 Forks given free for a club of seven subscribers.
- Set of 6 Tablespoons given free for a club of seven subscribers.
- Set of 6 Knives given free for a club of twelve subscribers.
- Set of 6 Dessert-spoons given free for a club of five subscribers.
- Set of 6 After-dinner Coffee-spoons given free for a club of four subscribers.
- One Berry-spoon given free for a club of three subscribers.
- One Pie-knife given free for a club of three subscribers.
- One Gravy-ladle given free for a club of three subscribers.
- Sugar-shell and Butter-knife (both) given free for a club of two subscribers.
- One Child's Set (A small Knife, Fork and Spoon) given free for a club of three subscribers.

Postage paid by us

Address FARM AND FIRESIDE, Springfield, Ohio

Free—The New Cure for Kidney and Bladder Diseases, Rheumatism, etc.



Disorders of the Kidneys and Bladder cause Bright's Disease, Rheumatism, Gravel, Pain in the Back, Bladder Disorders, difficult or too frequent passing water, Dropsy, etc. For these diseases a Positive Specific Cure is found in a new botanical discovery, the wonderful Kava-Kava Shrub, called by botanists, the piper methysticum, from the Ganges River, East India. It has the extraordinary record of 1,200 hospital cures in 30 days. It acts directly on the Kidneys, and cures by draining out of the Blood the poisonous Uric Acid, Lithates, etc., which cause the disease.

Safety Razors FREE. These improved simplex magnet safety-razor outfits given absolutely free. Only one to a person. Every razor warranted always in order; so finely adjusted impossible to cut or scratch the face. To introduce into every home our Shaving & Complexion Soap, which beautifies, removes pimples, blotches, & all facial eruptions, leaving skin looking fresh & young & delicately perfumed after a shave.

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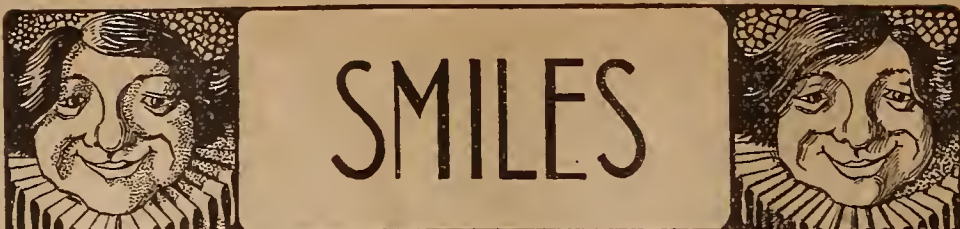
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THE JOLLY CROCODILE. There lived on the banks of the Nile A crocodile famed for his smile. Said he, "For a shilling I really am willing To sit in the sunshine and smile." Now, a native lived under a tree, And very annoying was he, For he scoffed at the smile Of that big crocodile, Did the native who lived by the tree. "You won't get a shilling from me," Said the chap, as he finished his tea; "You will get quite a crowd If your smile is so loud." Said the crocodile, "Hum, we shall see! "We live on the banks of the Nile; There is no one for many a mile; I really must sup"— So he gobbled him up. With a grin, did that big crocodile! —B. D. R., in Sunny South.

A DAMP DUTY. When pairs of every living thing Poor Noah had to get, It must have bothered him to bring The fish in out the wet. —L. A. W. Bulletin.

HIS COLORS. Some fellows may for Harvard root, And some for Yale instead; But as for me, I'm always blue When I've not got a red.

A SOLOMON STORY. AN ILLINOIS hoy was once asked to write an essay on Masonry, and here is what he wrote: "King Solomon was a man who lived so many years in the country that he was the whole push. He was an awfully wise man, and one day two women came to him, each holding to the leg of a baby and nearly pulling it in two and each claiming it. And King Solomon wasn't feeling right good, and he said, 'Why couldn't the brat have been twins and stopped this bother?' And then he called for his machete and was going to Weyerize the poor, innocent little baby, and give each woman a piece of it, when the real mother of the baby said, 'Stop, Solomon; stay thy hand. Let the other hag have it. If I can't have a whole baby I won't have any.' Then Solomon told her to take the baby and go home and wash its face, for he knew it was hers. He told the other woman to go chase herself. King Solomon built Solomon's temple, and was the father of Masons. He had seven hundred wives and three hundred lady friends, and that's why there are so many Masons in the world. My papa says King Solomon was a warm member, and I think he was hot stuff myself. That is all I know about King Solomon."—The Tyler.

ANOTHER HOBSON EPISODE. When the much-embraced Hobson was standing at the foot of the Francis Keys monument, receiving the adoration of the throng, an ancient lady with a countenance suggesting an animated tomahawk, pressed forward to shake the hand that shook the hattery that exploded the Merrimac. Just at that moment a gust of wind caught Hobson's hat, and in order to retain this possession, the naval constructor lurched forward. His movement was entirely misunderstood, and the old lady, who plainly was "hoi polloi," repulsed his supposed advances with fine scorn. "Don't ye try to kiss me, ye—ye coxcomb," she said, threateningly, to the amazed Hobson, "or I'll swat ye!" Since then Hobson is said to have opened a little account in his private ledger, headed "Unkissed Kisses."—News-Letter.

LOOKING AFTER NUMBER ONE. A gentleman of Hebrew persuasion possessed a small sailing-boat, and invited a boon companion to venture upon the ocean for a small sail. During one of these expeditions a squall suddenly came on, and the proprietor, while attempting to turn the course of the craft, was pitched overboard. As he was struggling and fighting with the waves his friend perked up anxiously over the side of the boat, and ejaculated: "I thay, Ikey, ole man, if yer don't come up the third time can I have the boat?"

A SUGGESTION OF HIGH JINKS. Tommy—"Mama, why are papas' watches always bigger than mammas' watches?" His mother—"Oh! it seems that men can't get along without having great times."—Jeweler's Weekly.

Good Blood! Your heart beats over one hundred thousand times each day. One hundred thousand supplies of good or bad blood to your brain. Which is it? If bad, impure blood, then your brain aches. You are troubled with drowsiness yet cannot sleep. You are as tired in the morning as at night. You have no nerve power. Your food does you but little good. Stimulants, tonics, headache powders, cannot cure you; but Ayer's Sarsaparilla will. It makes the liver, kidneys, skin and bowels perform their proper work. It removes all impurities from the blood. And it makes the blood rich in its life-giving properties. To Hasten Recovery. You will be more rapidly cured if you will take a laxative dose of Ayer's pills each night. They arouse the sluggish liver and thus cure biliousness. Write to our Doctors. We have the exclusive services of some of the most eminent physicians in the United States. Write freely all the particulars in your case. Address, DR. J. C. AYER, Lowell, Mass.

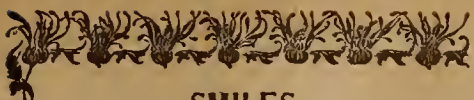
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SMILES

[CONTINUED]

NOT LIKE THE LAWYERS

"Now," said the lawyer who was conducting the cross-examination, "will you please state how and where you first met this man?"

"I think," said the lady with the sharp nose, "that it was—"

"Never mind what you think," interrupted the lawyer. "We want facts here. We don't care what you think, and we haven't time to waste in listening to what you think. Now, please tell us where and when it was that you first met this man."

The witness made no reply.

"Come, come," urged the lawyer. "I demand an answer to my question."

Still no response from the witness.

"Your honor," said the lawyer, turning to the court, "I think I am entitled to an answer to the question I have put."

"The witness will please answer the question," said the court, in impressive tones.

"Can't," said the lady.

"Why not?"

"The court doesn't care to hear what I think, does it?"

"No."

"Then there's no use questioning me any further. I am not a lawyer. I can't talk without thinking."
—London Spare Moments.

AN EVEN EXCHANGE

A good Irish story will bear considerable retelling. Such, evidently, is the view of "Coruhill Magazine," from which the following example is taken:

Chief Baron O'Grady was once trying a case in an assize town where the court-house abutted on the green. A fair was in progress, and just outside the court a number of asses were tethered. As the counsel was addressing the court one of these began to bray.

Instantly the chief baron stopped the speaker. "Wait a moment, Mr. Bushe," he said, "I can't hear two at once."

The court roared, and the advocate grew red. But presently, when it came to summing up, the judge was in full swing when another ass struck in, whether by the counsel's contrivance or not, who shall say? Anyhow, up jumped Mr. Bushe, with his hand to his ear, and said:

"Would your lordship speak a little louder? There is such an echo in the court."

ANGELS UNAWARES?

Mr. T., a business man, rents desk-room in his office to Mr. B., whence the following story: "Is Mr. B. in?" asked a caller. "No," replied Mr. T., thinking he recognized an unwelcome caller. "Well, I'll wait for him," replied the caller, sitting down. At five o'clock he was still waiting. At five-thirty still waiting. A few minutes before six Mr. T. closed his desk for the day and prepared to go home. The caller ventured to ask if Mr. B. was likely to return to his office that day. Mr. T. answered, "No; he is in Sacramento, and will be back next Tuesday morning." The caller showed no anger. On the contrary, he smiled. "Don't apologize," he said; "my business was not important, and your office has proved a pleasant lounging-place. Fact is," he blandly added, "I suppose I'm coming down with the smallpox, and the doctor told me I must stay indoors and keep warm."
—Argonaut.

A WARNING TO TIN-WHISTLERS

A band of Germans who were ordered to play before the emperor played so well that he ordered his servant to fill all their instruments with gold. "Just my luck," said the man with the tin whistle, "mine will hardly hold any."

A short time after they were again ordered to play before his majesty, and this time they played so badly that he ordered them to go and swallow their instruments.

"Just my luck," said the tin-whistler. "I'll have to swallow mine, and they can't."

THICK ENOUGH

"Beauty," sighed the gazelle, "is, after all, only skin deep!"

"Well, we pachyderms ain't klicking," replied the hippopotamus, being altogether deceived as to the motives of the people who came and stared at her.

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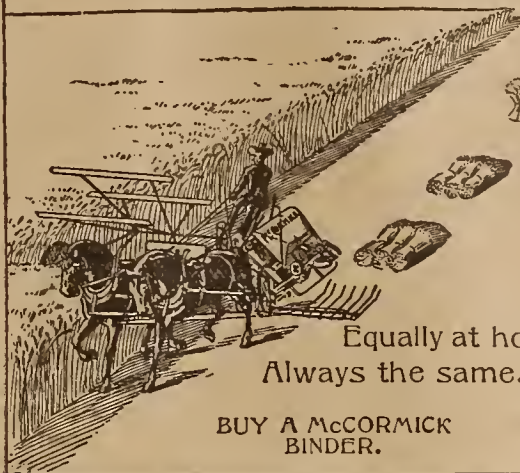
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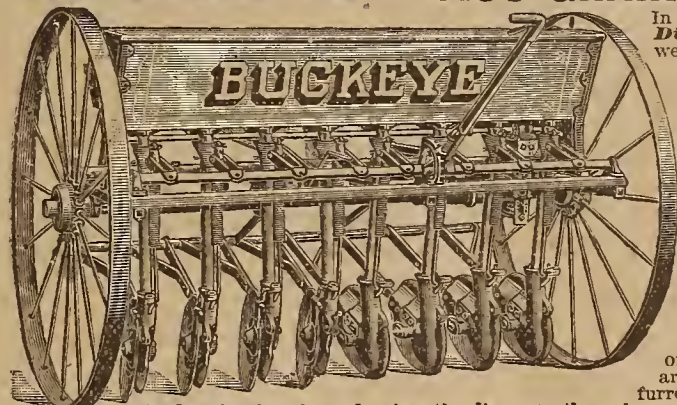


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absolute freedom from clogging; the disc cuts through weeds, corn stalks, etc. They are somewhat lighter in draft also. Ours are equipped with either chain covers or spring press wheel covers. This is a perfect Disc Drill and will meet every requisite of such a machine. Don't buy until you see our catalogue and prices. Sent free. Write for them at once. P. P. MAST & CO., 17 Canal St., BRANCHFIELD, OHIO. Branch House, Philadelphia, Pa.

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MALARIA FROM HOUSE-PLANTS

THERE is an undoubted prejudice against house-plants in the sleeping-room, which has not seemed to be justified by anything that has been proven against the plants. Most of such popular ideas, however, embody a truth, and it is not always wise to ignore them. It has been recently found that malaria has been propagated among persons sleeping in a room in which plants were growing in boxes filled with malarial soil. Several cases of this disease in winter have been recently traced by physicians to this cause. The germs seemed to thrive in the heated air of the house. When we remember the source from which the soil around house-plants is obtained, and the common use of rotted earth, often from malarious swamps, in preparing the soil, it is strange that this complaint has not been made before.

It is quite possible to have too many house-plants. A few blooming house-plants are a pleasure in the living-room, but the practice of some families of filling all the sunny windows with boxes of dank earth for the cultivation of flowers during the winter and spring months is not one to be commended. The most essential thing in any home is the health and comfort of the members of that home. If flowers shut out the sunshine, then flowers must be given up, however delightful their presence is. There is no such objection to a conservatory built especially for the accommodation of plants, though it is possible to introduce the germs of malarious earth even in this case. The objection to flowers in many houses is that they may occupy the sunny windows that the members of the family should sit in and enjoy. During a great deal of their time of growth house-plants are not ornamental, but simply a promise. While summer plants are resting from growth it is better to keep them in a well-lighted cellar than up-stairs, where they are not often ornamental and are certain to be more or less in the way. This applies to geraniums, begonias of some kinds and to the vast majority of the summer-blooming plants taken in during the winter.—New York Tribune.

ILOILO

Iloilo (e-lo-e-lo), the chief town of the island of Panay (pa-ni), is, in the Philippine group, of almost as much importance as Manila. From a climatic point of view it is far more habitable, as the northeast winds are prevalent and a calm is rare. Calm weather is one of the most difficult propositions faced by foreigners who take up their residence in the Philippines. Iloilo is almost at the southern extremity of Panay, and Panay is practically due southeast of Luzon and Mindoro islands.

The spring tides of Iloilo harbor are unusually strong and high. At that season of the year they flood the entire town, and the natives take to the hills or the house-tops; but despite this sousing, the place is healthy, and epidemics are comparatively unknown. The temperature is much lower in Iloilo than in Manila, and to this is due the general healthfulness of the spot.

The country about Iloilo is given up to sugar-plantations, the annual crop being estimated at 1,000,000 piculs (about 134,000,000 pounds). Tobacco and rice are also cultivated, but flocks of locusts frequently injure these crops. The distance from Iloilo to Manila is 250 miles.—Cincinnati Commercial Tribune.

DANGERS OF LAUGHTER

It is surprising to learn from the highest medical authority in England that laughter may be injurious.

Laughter in itself, says the "British Medical Journal," cannot very well kill, but it may do harm. Hysterical girls and boys with kindred nervous afflictions are often given to immoderate laughter, which tends to increase nervous exhaustion.

Dr. Feilchenfeld relates an instructive case in which a little girl suffered from very definite cardiac symptoms after immoderate laughter. The patient was thirteen years old and had previously been free from any sign of heart disease. After laughing on and off for nearly an hour with some companions she suddenly felt stabbing pains in the chest and was seized with fits of coughing, followed by cardiac dyspnoea very well marked. Dr. Feilchenfeld believes that the cardiac disease directly resulted from immoderate laughing.

SUDDEN DEATH

A PROMINENT MERCHANT SUDDENLY EXPIRES WHILE AT HIS PLACE OF BUSINESS

How frequently we see the above or similar announcements. People are full of pity for the family of the man so suddenly and sadly stricken. They say, "How terribly sudden! Why, I saw him yesterday and he looked good for thirty years." Exactly! The bridge at Ashtabula looked good for fifty years the day before the great accident. Great trains ran in safety along the trembling trestles which in a few more hours were to collapse in a fearful fall. The iron in them had been gradually disintegrating for years. The death of this man was no more sudden than the fall of the bridge.



Each had the strength slowly undermined. And like the bridge, when the man's strength reached its minimum resisting capacity, down he went.

There's a fact for public consideration. One form of disease is rarely responsible for premature death. Time and time again the doctor in attendance on the man suffering from typhoid or other fever says, "I could have pulled that man through if it had not been for his weak stomach." And that "weak stomach" is the one ever-present danger to the business man. He has his warnings. Time and again his stomach cries out, revolting at the food given it, perhaps ejecting it forcibly. Time and again he gasps and clasps his hand to his heart when it gives a sudden, suffocating leap. Time and again, when his starved nerves have protested by headache, neuralgia, or some other form of pain, he has thought he must get medical treatment. And when his wife finally says, pleadingly, "My dear, do get something for your neuralgia," or "You must do something for your stomach," what does he do? He just stops into a drug store as he goes down town and gets something in the tablet form which dulls his pain, and permits him to keep at work, but which does not oppose a straw in the way of the disease. Thus the undermining process goes on until the collapse comes, with its shock to the family and surprise to the friends.

THE WARNINGS

The first necessity of every man is to heed the warnings Nature gives, that this undermining process is going on in his system. A stomach weakened by abuse, gorged with overeating or overburdened with hot bread, too rich or greasy food, or those too highly seasoned, becomes weakened and fails to thoroughly digest the food. A heavy sodden mass is accumulated in the stomach to ferment as the first step in its decay, giving off foul gases to distend the stomach, and poison the blood, until it becomes thin, weak and lacking in the red corpuscles so necessary to perfect health.

The overdistended stomach presses upon the heart, and the latter organ is also disturbed through sympathy, the same system of nerves being distributed to both organs. Thus palpitation and irregular action of the heart, with its attendant shortness of breath, results, and in time disease of the heart itself is established.

The gases and other poisons generated from undigested, fermenting and decaying food in the stomach becloud the brain, causing headaches, and pain in the eyes.

Being absorbed into the blood these poisons reach every part and organ of the system. The kidneys are thereby poisoned, causing Bright's disease and diabetes. Filtering through the skin, troublesome skin diseases often show themselves.

As every organ and every nerve depend for their nourishment and renewal upon the stomach, weak digestion shows itself not alone in loss of appetite and flesh, but also in nervousness, debility, bad complexion and many other derangements.

Some people know where the trouble is. They locate it in the stomach, because they have pain there after eating, an irregular craving for food, or an appetite that eating does not satisfy. There is heaviness after a

meal, a feeling of undue fullness. Perhaps the stomach sours, and there are bitter risings and belchings. These symptoms mark various forms and stages of "weak stomach." They will not all be present in every case or in the earlier stages of the disease. Any one of these symptoms locates the trouble in the stomach and the digestive and nutritive functions, which are disturbed.

WHAT TO DO

Now comes the question, "How can these conditions be cured?" No one is better fitted to answer that question than one who has been cured of disease, and been uplifted into a condition of sound health. Such a one is Mr. Thomas G. Lever, of Lever, Richland Co., S. C., who writes: "I was afflicted with what the doctors called nervous indigestion. Took medicine from my family physician to no avail. In looking over one of Dr. Pierce's Memorandum Books, I found my case described exactly. I wrote to him and made a statement. He sent me a descriptive list of questions, also hygienic rules. I carried these out as best I could, but I thought myself incurable, as I suffered so much with pain under my ribs and an empty feeling in my stomach. At night would have cold or hot feet and hands alternately. I was getting very nervous and suffered a great deal mentally, thinking that death would soon claim me. Always expected something unusual to take place; was irritable and impatient, and greatly reduced in flesh. I could scarcely eat anything that would not produce a bad feeling in my stomach. After some hesitation, owing to my prejudices against patent medicines, I decided to try a few bottles of Dr. Pierce's Golden Medical Discovery, and 'Pellets.' After taking several bottles of each, found I was improving. I continued for six months or more, off and on. I have to be careful yet, at times, of what I eat, in order that I may feel good and strong. I fully believe if any one suffering with indigestion or torpid liver or chronic cold would take Dr. Pierce's Golden Medical Discovery and 'Pleasant Pellets' and observe a few simple hygienic rules he would soon be greatly benefited, and with a little perseverance would be entirely cured.

"My son who has weak lungs and takes cold easily used just one bottle of 'Golden Medical Discovery' and was cured; got strong and very fleshy."

HOW THOUSANDS ARE SAVED

That is the way that thousands have been cured, by the patient, persistent use of Dr. Pierce's Golden Medical Discovery. The cure by the use of this remedy may be said to be certain, since ninety-eight per cent of all who use it are perfectly and permanently cured. The time occupied in making the cure depends upon the stage of the disease and the condition of the patient. It takes time to cure complicated diseases, but the cure comes in time with the use of "Golden Medical Discovery."

COMMON SENSE TREATMENT

The diseases which originate in the stomach are cured through the stomach by the use of Dr. Pierce's Golden Medical Discovery. That is the common sense way of reaching them. The "Discovery" alters the diseased condition of the stomach and the organs of digestion and nutrition. It increases the activity of the blood-making glands, so increasing the supply of the vital fluid. It purges the system of effete and waste matter, which clogs its canals and poisons the current which flows along the veins and arteries. It removes the poisons which accumulate when the kidneys and liver fail in their duty. When this is done the stomach and its associate organs begin to provide the essential nourishment for bone, brain and blood, in proper proportions. The nerve centers are nourished into health. Pains disappear. Sleep becomes restful. The appetite is restored and "good digestion waits on appetite." The sallow and wrinkled skin is replaced by a smooth skin and bright complexion. In fact the life is renewed. All this is done through the stomach.

The operation of "Golden Medical Discovery" is twofold. It first corrects the irregularities of the stomach and the organs of digestion and nutrition. Next it furnishes the pabulum required by Nature to feed the starving organs of the body. It restores health in Nature's own way, by nourishment.

DOES NOT INEBRIATE

There is no alcohol, whisky or other intoxicant in "Golden Medical Discovery," neither does it contain any opium or other narcotic. It does not therefore create a craving for intoxicating stimulants or dangerous narcotics.

If a dealer offers another preparation as "just as good" as "Golden Medical Discovery" it's because it pays him a trifle more profit to sell an inferior preparation. Such a man does not care for your health. Go to the dealer who gives you what you ask for, and who does not insult your good judgment by urging upon you something as "just as good."

MYSTERIES REVEALED

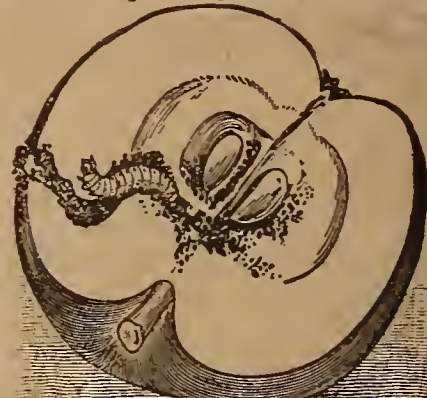
There is a "Dark Continent" which every man should explore for himself, know its mysteries and its wonders, which are greater than all the world-wonders. That unexplored "Continent" is the human body, with its marvelous mechanism, its God-given functions. The best guide for any explorer of this terra incognita is Doctor Pierce's Common Sense Medical Adviser. It unravels the mysteries of life. It brightens the twilight of the marriage chamber. It points the way to health, and extends a helping hand to those who stumble in the path. It is invaluable for reference on all questions which effect the health and well-being of man or woman. This great work is sent absolutely free on receipt of stamps to pay the expense of mailing only. Send 21 one-cent stamps for the paper-cover edition, or 31 stamps for the same book in handsome cloth. Address Dr. R. V. Pierce, Buffalo, N. Y.

DEEPEST LAKE

Crater lake is the deepest American lake, and, indeed, one of the deepest lakes in the world. It is one of the wonders of America. Crater lake is on the crest of the Cascade mountains, about one hundred miles east of Ashland, Oregon. It is circular in shape and about five miles across. It lies on the very top of Mount Mazama, and is completely surrounded by rocks rising straight from the water. Its greatest ascertained depth is two thousand feet, and this depth seems to be almost the same over the greater part of the lake. There is no beach, the surrounding rocky shores extending vertically beneath the water to the depth of several hundred feet. There are few large fish in the lake, but much small life in the shape of crustacea.

SPRAYING FRUIT-TREES

The question of spraying fruit-trees to prevent the depredations of insect pests and fungous diseases is no longer an experiment, but a necessity.



Our readers will do well to write Wm. Stahl, Quincy, Illinois, and get his catalogue describing twenty-one styles of Spraying Outfits and full treatise on spraying the different fruit and vegetable crops, which contains much valuable information, and may be had for the asking.

SENATOR STEWART'S HOBBY

Ex-Senator Evarts hit off Mr. Stewart's peculiarities in a little story that he told at a dinner given in honor of Senator Spooner when the latter was leaving public life six years ago, says a Washington correspondent in the Chicago "Record." After the coffee was served, one after another of his colleagues arose and pronounced a eulogy. When Mr. Stewart's turn came, he said that while Spooner was a good fellow he was all wrong on finances, and proceeded to repeat the old speech he had made so many times in the Senate.

Senator Evarts, who next took the floor, said that Stewart reminded him of a man he had met in an asylum one time, when he was acting as a member of a board of visitors. The superintendent told them that they must say cheerful things to the patients, and therefore, when he saw a lunatic sitting astride of a table, beating it with a whip and pretending to drive it with a pair of string lines, he walked up to him and said: "That's a fine hobby you have there, my friend."

"It isn't a hobby," answered the lunatic, "it's a horse."

"What's the difference between a horse and a hobby?" suggested Mr. Evarts. The lunatic turned on him with an air of supreme contempt, and remarked: "You blank fool, anybody can get off a horse, but nobody ever got off a hobby."—Boston Herald.

Membranous Croup frequently comes like a thief in the night. Prompt doses of Jayne's Expectorant rarely fail to effect a cure.

Allcock's POROUS PLASTERS

Everybody should know what they want and then GET IT. Don't be persuaded to accept an imitation porous plaster when you ask for and want "Allcock's." They are the ones that cure. Others trade on their reputation.

NEW DOMESTIC COFFEE SEED

You can grow your own coffee for one cent a pound. It is the poor man's friend, and thousands prefer it to store coffee. It saves both health and dollars; is hardy, easy to raise, bears prodigiously. Grows well in any soil or climate, and ripens as early as corn. Prepare same as other coffee, and you will be surprised to see how good it is. Dr. J. M. Ashby says: "It is a great success; better than 30-ct. coffee." The *Christian Advocate* says: "One of the most wonderful discoveries." A. I. Root says: "More healthful and better than real coffee." A large packet of seed and my catalogue mailed free for 10 cts.; 3 for 25 cts.; 7 for 50 cts. I will add free to above a large packet of 200 varieties of easy-growing Mixed Flower Seeds and a Book on Window Gardening and Care of Plants for all who order promptly and name this paper. Address A. C. COOK, Rock City, N. Y.



WALL PAPER
The choicest designs ever issued for the effective decoration of any or every room in the house will be found in our free sample book of **WALL PAPER**
All prices from 6 cents to \$2.00 a roll. Manufacturers' stock of 3,500,000 pieces to select from. Save 25 per cent by buying direct from factory. Agents wanted everywhere.
KAYSER & ALLMAN,
1214-1216 Market St., Philadelphia, Pa.

ALL STEEL DISC HARROW

\$17.25 Buy this Steel 12-16 in., 2 lever harrow, 3-horse equalizer, with all modern improvements. Is made strong and durable. Sent C.O.D. subject to "Approval" on receipt of \$2.00, to be returned at our expense if not positively the best harrow ever sold at the price.
No. 50 TOP BUGGY
\$36.50 buy this handsome leather quarter top buggy, made of very best material and workmanship. Sent C.O.D. subject to "Approval" on receipt of \$2.00, to be returned at our expense if not positively the best buggy ever sold at the price.
We manufacture and handle full and complete lines of Carriages, Buggies, Wagons, Farm Implements, Pianos, Organs, Twins, Bone Cutters, Incubators, and many other things at manufacturers' prices.
Ask for Catalogue **JOHN DORSCH & SONS,** 205 Wells St., Milwaukee, Wis.

A GOOD PLOW

is the foundation of good agriculture. The stamp "Oliver Chilled" appearing on the finished plow, or on the smallest fitting or separate part, is a guarantee of excellence. Don't let any dealer sell you something else. The OLIVER plows are the best plows for numerous reasons, which are stated in our free catalogue.
THE OLIVER CHILLED PLOW WORKS, South Bend, Ind.

HEALTH AND BUSINESS

I offer for sale a fourth interest in a new and growing town, situated in Western Colorado, in the midst of one of the finest fruit regions in the country. It has railroad facilities, schools and churches, and offers special advantages for the establishing of a county bank. The peculiar climatic conditions recommend it, particularly to consumptives and asthmatics. For particulars, address **JOHN P. BROCKWAY, 501 Equitable Bldg., DENVER, COLO.**

LEARN TELEGRAPHY

Young men and women wanted for good positions. Address **FISK TELEGRAPH SCHOOL, Lebanon, Pa.**

PATENT

Secured or money all returned. Search free. **Collamer & Co., 1040 F St., Wash., D. C.**

MISCELLANY

HOUSE-FLIES

If there is any insect that annoys us in our homes more than another it is not the house-fly? And in the country there seems no way to prevent it. From the point of view of domestic hygiene this creature has nothing to commend it. An illustrated pamphlet just issued by the Department of Agriculture tells us much about "house-flies." Its scientific name is "musca domestica," so that there will be no uncertainty about what to call it. It is interesting throughout. The early life of the house-fly is most complex. Its intelligence is quite marvelously precocious. There is a chapter on how to get rid of the little pests—screens and fly-paper we all know about. There seems to be little hope in the future of much relief by doing away with this insect, for a single stable in which a horse is kept will supply flies for an extended neighborhood. Then comes another statement: "Absolute cleanliness, even under existing circumstances, will always result in a diminution of the numbers, and, in fact, most household insects are less attracted to the premises of what is known as the old-fashioned house-keeper than to those of the other kind." It was also found that by having a receptacle for the horse manure of a stable, and putting a half of a shovelful of chloride of lime over the accumulations every morning, a large portion of the eggs and larvae of the fly are killed. Flies spread contagion. During the war of the rebellion it was found they were responsible for spreading hospital gangrene.

Among those concerns who stand out with special prominence as having made a complete and entire success of their business may be named F. W. Mann Company, of Milford, Mass. These people are pioneers in the manufacture of bone cutters, and their Mann Green Bone Cutter has done perhaps more than anything else to bring about the modern new poultry culture. They have kept pace with the times, and their watchword has been "improvement," with the result that the Mann Cutters leave nothing to be desired in a machine for this purpose. They have the largest factory in the world devoted exclusively to this line of manufacture, and it is their proud declaration that they have sold more green bone cutters than all other manufacturers combined. They will take pleasure in mailing you their extended illustrated catalogue if you but request it. Write them and kindly mention that you saw this in our paper.

FOR BACHELORS

For the vacant position of teacher in Nimes in France the government appointed a teacher who was still single. As soon as news of this appointment came to the ears of the city council of Nimes they went into special session and adopted this resolution: "As marriage is the foundation of all social order, and for this reason should be favored by all teachers, and as single life, ignoring the high value of family life, sins equally against human dignity and against the preservation of good morals, we resolve that it is improper to employ unmarried teachers as long as married ones may be had; and if parents should refuse to send their children to school with an unmarried teacher, we can only approve of it. The council, therefore, asks the government for a regular teacher."—*Public School Journal.*

A BEAUTIFUL ART CALENDAR

The Chesapeake & Ohio Railway will mail to any address a beautiful art calendar for 1899, containing six pictures of the typical American girl in army camp. Enclose fifteen cents in postage stamps to U. L. Truitt, General Eastern Passenger Agent, C. & O. Ry., 362 Broadway, New York.

FARMERS FOR SPOKANE

Big Money to be made raising grain, fruit, stock and poultry. Fine land cheap. Write for literature and particulars to Chamber of Commerce, Spokane, Wash.

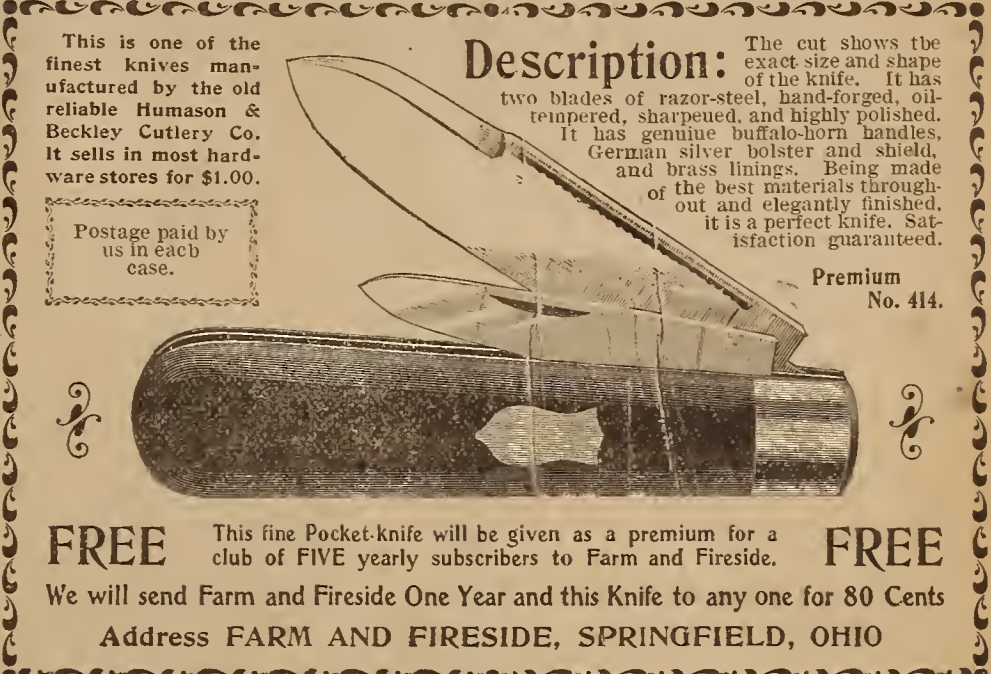
RECENT PUBLICATIONS

CATALOGUES RECEIVED
William Parry, Parry, N. J. Catalogue of Parry's Pomona Nurseries. Specialty—best nut-bearing trees.
L. J. Farmer, Pulaski, N. Y. Catalogue of berry-plants, fruit-growers' supplies, etc.
Northrup, King & Co., Minneapolis, Minn. Catalogue of good seeds at fair prices. Primer No. 2—"Hints on Grasses," by Prof. W. J. Beal, an interesting and useful treatise on the subject.
Horticultural Publishing Co., Griffin, Ga. "Spraying for Profit," a practical pamphlet for fruit-growers. Price 20 cents.
Ellwanger & Barry, Mount Hope Nurseries, Rochester, N. Y. "Delicious Pears," a handsome little booklet illustrating and describing twelve choicest pears for the family garden which ripen in succession from earliest to latest.
W. Atlee Burpee & Co., Philadelphia, Pa. Illustrated catalogue of Scotch collie dogs and fancy poultry.
W. P. Rupert & Sons, Seneca, N. Y. Handsome illustrated catalogue of Rupert's well-known reliable trees and plants.
The Livingston Seed Co., Columbus, Ohio. The 1899 annual of Livingston's "True Blue" seeds.

A Worn-Out Fad

"Spring Medicines," "Blood Purifiers" and "Tonics" an Old-Fashioned Idea

Pure blood, strong nerves and muscles, firm, healthy flesh, can only come from wholesome food well digested. "Blood purifiers" and "nerve tonics" do not reach the cause of the mischief. The stomach is the point to be looked after. The safest and surest way to cure any form of indigestion is to take after each meal some harmless preparation of this kind composed of vegetable essences, pure pepsin, golden seal and fruit salts, sold by druggists under name of Stuart's Dyspepsia Tablets, and these tablets taken after meals assist digestion wonderfully because they will digest the food promptly before it has time to ferment and sour, and the weak stomach relieved and assisted in this way soon becomes strong and vigorous again. Stuart's Dyspepsia Tablets are superior to any secret patent medicines because you know what you are taking into your stomach. They are sold by druggists everywhere at 50c. per package. Write F. A. Stuart Co., Marshall, Mich., for book on stomach diseases, mailed free.



This is one of the finest knives manufactured by the old reliable Humason & Beckley Cutlery Co. It sells in most hardware stores for \$1.00. Postage paid by us in each case.

Description: The cut shows the exact size and shape of the knife. It has two blades of razor-steel, hand-forged, oil-tempered, sharpened, and highly polished. It has genuine buffalo-horn handles, German silver bolster and shield, and brass linings. Being made of the best materials throughout and elegantly finished, it is a perfect knife. Satisfaction guaranteed.

Premium No. 414.

FREE This fine Pocket-knife will be given as a premium for a club of FIVE yearly subscribers to *Farm and Fireside*. **FREE** We will send *Farm and Fireside* One Year and this Knife to any one for 80 Cents. Address **FARM AND FIRESIDE, SPRINGFIELD, OHIO**

IROQUOIS BICYCLES \$16.75

400 of the famous Iroquois Model 3 Bicycles will be sold at \$16.75 each, just one third their real value. **IROQUOIS CYCLE WORKS FAILED** because their expensive build, and we have bought the entire plant at a forced sale at 20 cents on the dollar. With it we got 400 Model 3 Iroquois Bicycles, finished and complete, made to sell at \$60. To advertise our business we have concluded to sell these 400 at just what they stand us, and make the marvelous offer of a Model 3 IROQUOIS BICYCLE at \$16.75 while they last. The wheels are strictly up-to-date, famous everywhere for hearty and quality. The Iroquois Model 3 is too well known to need a detailed description. Slightly 17 in. seamless tubing, improved two-piece crank, detachable sprockets, arch crown, barrel hubs and hanger, 21 in. drop, finest nickel and enamel; colors, black, maroon and coach-green; Gents' frames, 22, 24 and 26 in., Ladies', 22 in., best "Record," guaranteed tires and high-grade equipment throughout. Our written guarantee with every bicycle. color and height of frame wanted, and we will ship C. O. D. for the balance (\$16.75 and express charges), subject to examination and approval. If you don't find it the most wonderful Bicycle ever made, send it back at our expense. Order To-day if you don't want to be disappointed. 50 cents discount for cash in full with order. WE HAVE BICYCLES A complete line of '99 Models at \$11.50 and up. Second-hand wheels \$3 to \$10. We want RIDER AGENTS in every town to represent us. 17,000 earned their bicycle last year. This year we offer wheels and cash for work done for us; also Free Use of sample wheel to agents. Write for our liberal proposition. We are known everywhere as the greatest Exclusive Bicycle House in the world and are perfectly reliable; we refer to any bank or business house in Chicago, to any express company and to our customers everywhere. **E. F. MEAD CYCLE COMPANY, Chicago, Illinois.**

\$4.95 buys a Man's All Wool Suit

of Rich Blue Serge, warranted Best Fast Color, Guaranteed equal in quality, style and looks to others' best \$10 Suits.

THE MATERIAL is Mall's Best All-wool Serge, famous everywhere for its perfect weave, soft feel and rich deep blue color. The cloth was woven by America's best woolen mill, from fine picked wool yarn, dyed by a new process and cannot fade. It is medium weight and suitable for year around wear; is firmly woven, will positively not fade or wear shiny, and will wear like leather. It's exactly the same cloth used in the serge suits that retail everywhere for \$10.00. Remember we will sell only 1800 suits at \$4.95—after they're gone the price will be \$9.00. Don't delay, but order today before they are all gone.

EXPERT SUIT TAILORS will make the suit in the latest sack style to fit perfect; line it with Holman's celebrated farmer satin, pipe it with Skinner's AAA sat., pad it extra well, use best grade of canvass, and sew every seam with pure silk and linen thread.

SEND NO MONEY but send this ad., with your height, weight, chest, waist and crutch measure. We'll send the suit by express C. O. D. and allow you to examine and try it on before you pay one cent. If found exactly as represented, the greatest bargain on earth and worth double our price, then pay exp. agent \$4.95 and expressage and take the suit. Pay nothing if unsatisfactory. **WE SELL 1800 SUITS AT \$4.95** for advertising purposes. After they are gone the price goes back to \$9.00—no more at \$4.95 after 1800 are sold. Order quick or they'll be gone. Don't miss this wonder chance. **LOUIS Z. VEIION CO., 155 W. Jackson St., Chicago, Ill.**

SPECIAL 60 DAYS OFFER

TO INTRODUCE OUR LATEST LARGE, POWERFUL ACHROMATIC TELESCOPE, THE EXCELSIOR.

JUST WHAT YOU WANT

OVER 3 1/2 FEET LONG 99 CENTS

5 to 10 Mile Range **ON SEA FARM OR RANCH**

POSITIVELY such a good Telescope was never sold for this price before. These Telescopes are made by one of the largest manufacturers of Europe, measure closed 12 inches and open over 31-2 feet in 5 sections. They are BRASS BOUND, BRASS SAFETY CAP on each end to exclude dust, etc., with POWERFUL LENSES, scientifically ground and adjusted. GUARANTEED BY THE MAKER. Heretofore, Telescopes of this size have been sold for from \$5.00 to \$25.00. Every sojourner in the country of at seaside resorts should certainly secure one of these instruments, and no farmer should be without one. Objects miles away are brought to view with astonishing clearness. Sent by mail or express, safely prepaid, for only 99 cts. Our new catalogue of Watches, etc., sent with each order. This is a grand offer and you should not miss it. We WARRANT each Telescope JUST AS REPRESENTED or money refunded. **WANTS ANOTHER: Brandy, Va. Gents.**—Please send another Telescope, money enclosed. Other was a bargain, good as instruments costing many times the money.—**R. C. ALLEN,** Sent 99 CENTS by Registered Letter, Post Office Money Order, Express Money Order, or Bank Draft payable to our order, or have your storekeeper or newsdealer order for you. **EXCELSIOR IMPORTING CO., Dept. 31, Excelsior Bldg., New York, Box 785.**

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We sell you direct—Actually pay you salesman's expenses and agent's profit. Write for free sample and book.
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\$60 Sewing Machines for \$18, We sell every reliable Sewing Machine made. We employ no agents, pay no commissions, which enables us to save you from \$25 to \$10 on any Sewing Machine you may select. All machines brand new, guaranteed latest improved, with all attachments, and warranted for 10 years. (Satisfaction guaranteed or money refunded.) Our illustrated catalogue gives full particulars, and will be mailed free. Address: **J. N. HOOK & CO., N. 1351 Central Ave., CINCINNATI, O.**

FENCING
For Poultry, half cost of Netting. Also farm, yard, cemetery fences, Freight paid, Catalogue free. **82 F. St. Atlanta, Ga.**

Let us send you a little book FREE showing how to protect your Sheep from Dogs by using our HERO SHEEP COLLAR. The cost is trifling, and it always does the work. Your name on a postal card will get the book. **WELLINGTON MFG. CO., Indianapolis, Ind.**

Hog's ART ICHOKES THEMSELVES
Prevent Cholera. No. 1 for all Stock. Before buying send yours and neighbor's "address" for FREE ESSAY on kinds, culture, yield (often 1,000 bu p.a.) with prices and fr. rates to all points. Single bu. \$1. **Hellville Seed Farms, Box 4, Hellville, Ill.**



SELECTIONS

SCARED INTO APPENDICITIS

I HAD appendicitis the other day," said a St. Charles-street business man: "that is to say, I had it to all intents and purposes. This is the way I contracted it: About a week ago I borrowed a medical work from a friend to look up a point about which I was curious. It was a work on diagnosis, and among other things it gave a minute description of the symptoms of appendicitis. I have always been much afraid of the malady, and that chapter had a hideous fascination for me. I read it and re-read it, and as I did so it seemed to me that some of the premonitory signs coincided exactly with certain aches and pains I had felt for several days. I got alarmed at once, and that night was panic-stricken by a severe cramp a little northeast of my right hip-bone. That I knew to be the fatal spot, and, needless to say, I didn't sleep a wink.

"By morning I had all the symptoms of a typical case, and could scarcely get around to see the doctor. I began to tell him my story when he stopped me. 'How do you come to know so much about the disease?' he asked. I replied proudly that I had been reading up on it. 'The dickens you have!' he replied. 'Well, you get right out of this office, confound you, and don't waste any more of my time!' Then he explained that every medical student always has all the diseases on record, in regular order, just as he studies 'em, and I began to feel better. I went home, returned the blasted book, and am now entirely out of danger, thank you. It is the quickest recovery on record."—New Orleans Times-Democrat.

COLORS ON THE CANADIAN STAMP

Philatelists have been besieging the offices of the Canadian postmaster-general with regard to the new two-cent stamp, which, it will be remembered, presents a map of the world, with the British Empire colored red. It seems that in the first sheets which were printed the set was of a delicate lavender color, but since then the sea has been turned out a very light blue. Stamp-collectors were naturally anxious to know which color the sea was to take on permanently. The answer which the department has given is that both colors will be printed, and so neither color need be treasured up as being of any particular value. In this connection it may be mentioned that a short time ago a curious report got abroad in Montreal to the effect that the English government had requested the Canadian government to withdraw this stamp from circulation. The deputy postmaster-general, when questioned, said that there was absolutely no truth in the report.—The London Chronicle.

FLASH-LIGHTS

No amount of cultivation can make a bad tree bear good fruit.

Visiting a hospital, prison or insane asylum is good medicine for backsliding.

The road to blessing often winds through a narrow, dark and winding lane.

Live to make somebody happy or you will never know what the true meaning of life is.

First get a man's heart, and you will not have to draw a revolver on him to get his purse.

SCIENCE NOTES

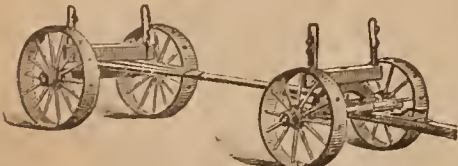
Edison's phonograph was invented in 1877. Wax and tin-foil were used to record sounds.

The wren often makes a dozen nests, leaving all but one unfinished and unused.

If the Atlantic ocean could have a layer of water 6,000 feet deep removed from its surface it would only reduce the width of that great body of water one half.

FARM WAGON FOR ONLY \$19.95

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Co., Quincy, Ill., has placed upon the market a Farmer's Handy Wagon, sold at the low price of \$19.95. The wagon is only 25 inches high, fitted with 24 and 30 inch wheels with 4 inch tire.



This wagon is made of best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.



Wyandotte Washing Soda

used with common soap will save half the soap in doing your washing, and will wash the clothes cleaner and do it quicker than with soap alone.

It is a better washing soda, not only than other sodas, but than any other washing compound.

A pound and a half package costs five cents, which is more than was ever sold for five cents before.

In cleans the clothes without hurting them. It contains no caustic alkali and will not injure the hands or the finest fabric. It makes the work of washing clothes easier and does the work better.

Send the name of your grocer and we will send you a coupon free, good for one five-cent package.

Bell Starch

is the starch that stiffens the clothes without sticking to the iron.

It comes in five and ten cent packages of half a pound and a pound each. It is stronger than other starch, and you get more for your money—two great savings.

It requires less trouble to use, because it is made without boiling. It is absolutely the best starch made.

A ten-cent package contains eight starchings for a large family wash. Send us the name of your grocer and get a free coupon good for one five-cent package.

Wyandotte Baking Soda

should be used by everyone who wants those delicious, fluffy, light, palatable soda-biscuits.

Wyandotte soda is absolutely pure, and stronger and better than other sodas, and you get twelve ounces for five cents, which is more than you get of the other kinds. It is better, cheaper, and goes farther than any other soda.

In return for the name of your grocer, we send you free a coupon good for one five-cent package.

The J. B. Ford Co., Box E, Wyandotte, Michigan.

CHARLES AUSTIN BATES N Y

THE CELEBRATED CORNISH AMERICAN PIANOS AND ORGANS.

ONE YEAR'S FREE TRIAL

WE WILL SHIP A CORNISH PIANO OR CORNISH ORGAN ANYWHERE UPON THE DISTINCT UNDERSTANDING THAT IF IT IS NOT SATISFACTORY TO PURCHASER AFTER 12 MONTHS' USE, WE WILL TAKE IT BACK.



It would be impossible for me to make public this unique CORNISH PLAN of doing business were it not backed up by the strongest evidence of our absolute responsibility. The Cornish American Pianos and Organs are warranted for twenty-five years, and with every warrant there is our personal guarantee endorsed by a business reputation of nearly fifty years, and plant and property worth over one million dollars. Our success in the past has been mainly owing to the confidence placed in us by the public, and we have a quarter of a million satisfied patrons bearing testimony to the honesty of our methods and the perfection of the Cornish American Pianos and Organs.

FOR FULL PARTICULARS OF THE WORLD FAMOUS CORNISH PLAN

and for a complete description of the instruments made by us, see OUR NEW SOUVENIR CATALOGUE for 1899, handsomely illustrated in colors—the most comprehensive musical catalogue in the trade. The frontispiece is a masterly reproduction in fac-simile of an interesting oil painting, designed and executed for us by an eminent artist, representing "SALIM, CECILIA AND THE ANGELIC CHOIR." This beautiful catalogue is sent FREE CHARGES PREPAID, and we also include our novel reference book, "THE HEART OF THE PEOPLE" CATALOGUE, BOOK AND OUR LATEST SPECIAL OFFERS FREE.

A prompt response to this advertisement will secure a DISCOUNT of \$10.00 on the list prices as quoted in our 1899 Catalogue on any CORNISH ORGAN or \$20.00 on the list prices if you buy a CORNISH PIANO.

PIANOS FROM \$155. With the Cornish Patent Musical Attachment, which correctly imitates the Harp, Guitar, Banjo, Mandolin, Etc. This patent can only be had in the CORNISH PIANO.

REFERENCES. Our bank, your bank, any bank or any of the multitude of patrons who have purchased millions of dollars' worth of instruments from us during the past fifty years.

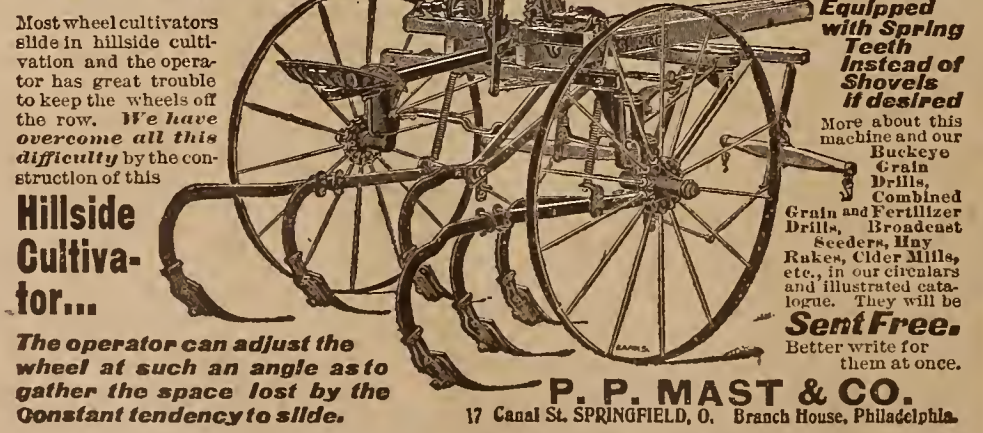
Send for particulars of the Cornish Co-operative Plan, showing how you can secure a Cornish Piano or Organ FREE!

CORNISH & CO., (Established nearly 50 years.) WASHINGTON, NEW JERSEY. MAKERS OF HIGH GRADE AMERICAN PIANOS AND ORGANS.



ORGANS FROM \$25.00

BUCKEYE No. 16 HILLSIDE OR PIVOT-AXLE CULTIVATOR

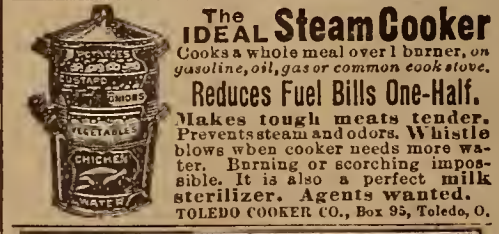


Easy to Handle, Easy to Adjust. Durable, Perfect. Most wheel cultivators slide in hillside cultivation and the operator has great trouble to keep the wheels off the row. We have overcome all this difficulty by the construction of this Hillside Cultivator... The operator can adjust the wheel at such an angle as to gather the space lost by the constant tendency to slide.

Equipped with Spring Teeth Instead of Shovels if desired. More about this machine and our Buckeye Drills, Combined Grain and Fertilizer Drills, Broadcast Seeders, Hay Rakes, Cider Mills, etc., in our circulars and illustrated catalogue. They will be sent free. Better write for them at once. P. P. MAST & CO. 17 Canal St. SPRINGFIELD, O. Branch House, Philadelphia.

WAR MONEY

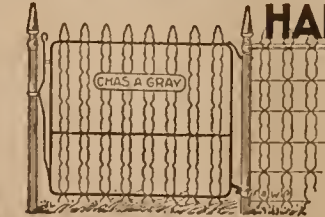
Battle-ship "Maine," flag-ship "Olympia," the "fighting Oregon," charge of Rough Riders. Twelve other stirring war pictures, in ten brilliant colors, ready for framing. In neat portfolio, special introductory price only 30 cents, post-paid. Agents wanted. Send quick. THE MERRILLAN CO., Department B, 920 Wolf Street, Philadelphia, Pa.



The IDEAL Steam Cooker. Cooks a whole meal over 1 burner, on gasoline, oil, gas or common cook stove. Reduces Fuel Bills One-Half. Makes tough meats tender. Prevents steam and odors. Whistle blows when cooker needs more water. Burning or scorching impossible. It is also a perfect milk sterilizer. Agents wanted. TOLEDO COOKER CO., Box 95, Toledo, O.

OUR SYSTEM THE BEST. WE LOAN BICYCLES BY THE YEAR. DON'T FOOL YOUR MONEY AWAY. YOU CAN NOT AFFORD TO BUY ONE. WRITE US AT ONCE FOR PARTICULARS. W.W. THOMAS, 322-336 E. 38th ST. CINCINNATI, O., U.S.A.

HARTMAN'S STEEL PICKET FENCE



A Rare Combination OF BEAUTY AND UTILITY. Combines in a high degree the qualities of a first-class fence, and beautifies the lawn and surroundings, thereby enhancing the value of the property. Takes up little space, harbors no weeds and is strong and durable. It greatly adds to the attractiveness of Public Grounds, Parks, School Lawns, Church Enclosures, Cemetery Lots, etc. Cheaper than a good wood Picket Fence—Lasts Indefinitely. Looks best and is best with our ornamental steel posts. Catalogue, circulars, etc., FREE. Address HARTMAN MFG. CO. Box 53, Ellwood City, Pa. or R.13, 309 Broadway N.Y. City.

AGENTS WANTED AGENTS MAKE MOST MONEY handling Asbestos Covered Fire Clay Cooking Utensils. Easy sales. Big Profits. Write quick. O.T. Baldoser, Roseville, Ohio.



40 Cent Patterns for 10 Cents

We will send any TWO PATTERNS, and this paper one year, for 40 CENTS
(When this offer is accepted the name may be counted in a club.)

These patterns retail in fashion bazaars and stores for twenty-five to forty cents each, but in order to increase the demand for our paper among strangers, and to make it more valuable than ever to our old friends, we offer them to the lady readers of our paper for the low price of only 10 Cents Each.

Full descriptions and directions—as the number of yards of material required, the number and names of the different pieces in the pattern, how to cut and fit and put the garment together—are sent with each pattern, with a picture of the garment to go by. These patterns are complete in every particular, there being a separate pattern

for every single piece of the dress. All orders filled promptly.

For ladies, give BUST measure in inches. For SKIRT pattern, give WAIST measure in inches. For misses, boys, girls or children, give both BREAD measure in inches and age in years. Order patterns by their numbers.

Satisfaction guaranteed or money refunded. To get BUST and BREAD measure, put the tape-measure ALL of the way around the body, over the dress, close under the arms.

Special price of each pattern 10 cents. Postage one cent EXTRA on skirt, tea-gown and other heavy patterns.

Address FARM AND FIRESIDE, Springfield, Ohio



No. 7623.—LADIES' SHIRT-WAIST. 10 cents. Sizes, 32, 34, 36, 38, 40 and 42 inches bust.



No. 7598.—LADIES' HOUSE JACKET. 10c. Sizes, 32, 34, 36, 38, 40 and 42 inches bust.



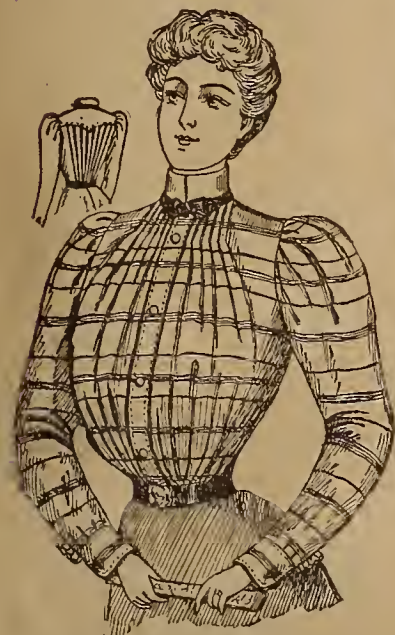
No. 7608.—LADIES' JACKET, WITH DIP FRONT. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 7597.—LADIES' WAIST. 10c. Sizes, 32, 34, 36, 38, 40 and 42 inches bust.



No. 7690.—LADIES' SHIRT-WAIST. 10c. Sizes, 32, 34, 36, 38, 40 and 42 inches bust.



No. 7522.—LADIES' SHIRT-WAIST. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 7604.—GIRLS' GUMPE DRESS. 10 cents. Sizes, 2, 4, 6 and 8 years.



No. 7605.—BOYS' KILT COSTUME. 10 cents. Sizes, 2 and 4 years.



No. 7601.—CHILD'S LONG COAT. 10 cents. Sizes, 1, 2, 4 and 6 years.



No. 7581.—CHILD'S APRON. 10 cents. Sizes, 2, 4, 6 and 8 years.



No. 7610.—LADIES' WAIST, WITH CIRCULAR BERTHA. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 7578.—CHILD'S DRESS. 10 cents. Sizes, 1, 2 and 4 years.

Any three patterns given free for a club of TWO yearly subscribers to Farm and Fireside.



No. 7599.—INFANTS' ROBE. 10 cents. One size.



No. 7614.—LADIES' WAIST, WITH DRAPED VEST. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 7617.—LADIES' SHIRT-WAIST. 10 cents. Sizes, 32, 34, 36, 38, 40 and 42 inches bust.



No. 7563.—LADIES' POINTED BASQUE. 10 cents. Sizes, 32, 34, 36, 38, 40 and 42 inches bust.



No. 7573.—LADIES' HOUSE GOWN, WITH OR WITHOUT TIGHT LINING. 11 cents. Sizes, 32, 34, 36, 38, 40 and 42 inches bust.



No. 7466.—LADIES' CAPE, WITH FLOUNCE AND REVERS. 10 cents. Sizes, small, medium and large.



No. 7621.—LADIES' SPENCER WAIST. 10c. Sizes, 32, 34, 36, 38, 40 and 42 inches bust.

For description and particulars about patterns see page 21.



No. 7619.—LADIES' CAPE. 10 cents. Sizes, 34, 38 and 42 inches bust.



No. 7576.—GIRLS' COSTUME. 11c. Sizes, 6, 8, 10 and 12 years.



No. 7486.—LADIES' WORK-DRESS. 11c. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 7508.—LADIES' WRAPPER. 11c. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 7496.—LADIES' JACKET. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 7590.—CHILD'S DRESS. 10 cents. Sizes, 2, 4 and 6 years.



No. 7615.—MISSES' WAIST. 10 cents. Sizes, 12, 14 and 16 years.



No. 7612.—CHILD'S APRON. 10 cents. Sizes, 2, 4 and 6 years.



No. 7499.—LADIES' WAIST, WITH HIGH OR LOW NECK. 10 cents. Sizes, 32, 34, 36, 38, 40 and 42 inches bust.



No. 6256.—GENTS' NIGHT-SHIRT. 10c. Sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust. No. 6250.—Same—Boys' size. 10 cents. Sizes, 10, 12, 14 and 16 years.

Any three patterns given free for a club of TWO yearly subscribers to Farm and Fireside.



No. 7609.—GIRLS' COSTUME. 11 cents. Sizes, 6, 8, 10 and 12 years.



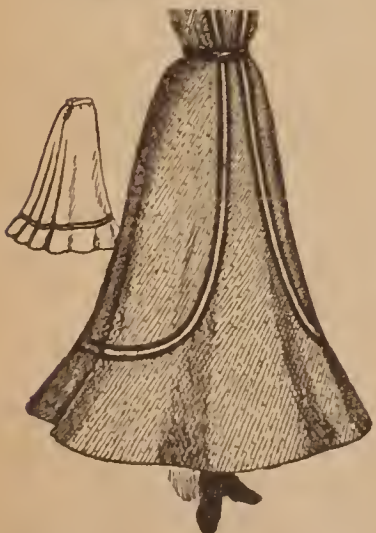
No. 7453.—LADIES' CORSET-CHEMISE. 11 cents. Sizes, small, medium and large.



No. 7586.—GIRLS' REEFER JACKET. 10 cents. Sizes, 2, 4, 6, 8 and 10 years.



No. 7546.—GIRLS' AFTERNOON GOWN. 11 cents. Sizes, 6, 8, 10 and 12 years.



No. 7613.—MISSES' SKIRT. 11 cents. Sizes, 12, 14 and 16 years.



No. 7464.—LADIES' PETTICOAT. 11 cents. Sizes, 22, 24, 26, 28 and 30 inches waist.



No. 7545.—CHILD'S LONG COAT. 10 cents. Sizes, 2, 4 and 6 years.



No. 7569.—CHILD'S DRESS. 10 cents. Sizes, 2, 4 and 6 years.



No. 7595.—LADIES' CAPE. 10 cents. Sizes, 34, 38 and 42 inches bust.

Postage paid by us

Address FARM AND FIRESIDE, Springfield, Ohio

5 Magnificent Geraniums

Premium Number 411

DOUBLE AND SINGLE FLOWERING



THE Geranium is the most popular plant for bedding and house culture. It blooms profusely the year round and always has luxuriant, green foliage. The Geranium is perfectly at home in every part of this country. It withstands hot sun and droughts like a weed. It is so easy to cultivate that every one can grow it, yet in foliage and flower it is splendid. It grows very rapidly and yields a mass of bloom in a short time. (When wanted for winter blooming keep it in a pot and pick off the young buds during the summer.)

The Geranium has been wonderfully improved during the past few years. New colors, new styles and profusely blooming sorts have been developed. The collection here offered includes the latest and best varieties of this popular flower. They are unusually fine year-old plants, well developed, strong and thrifty. All have an abundance of roots.

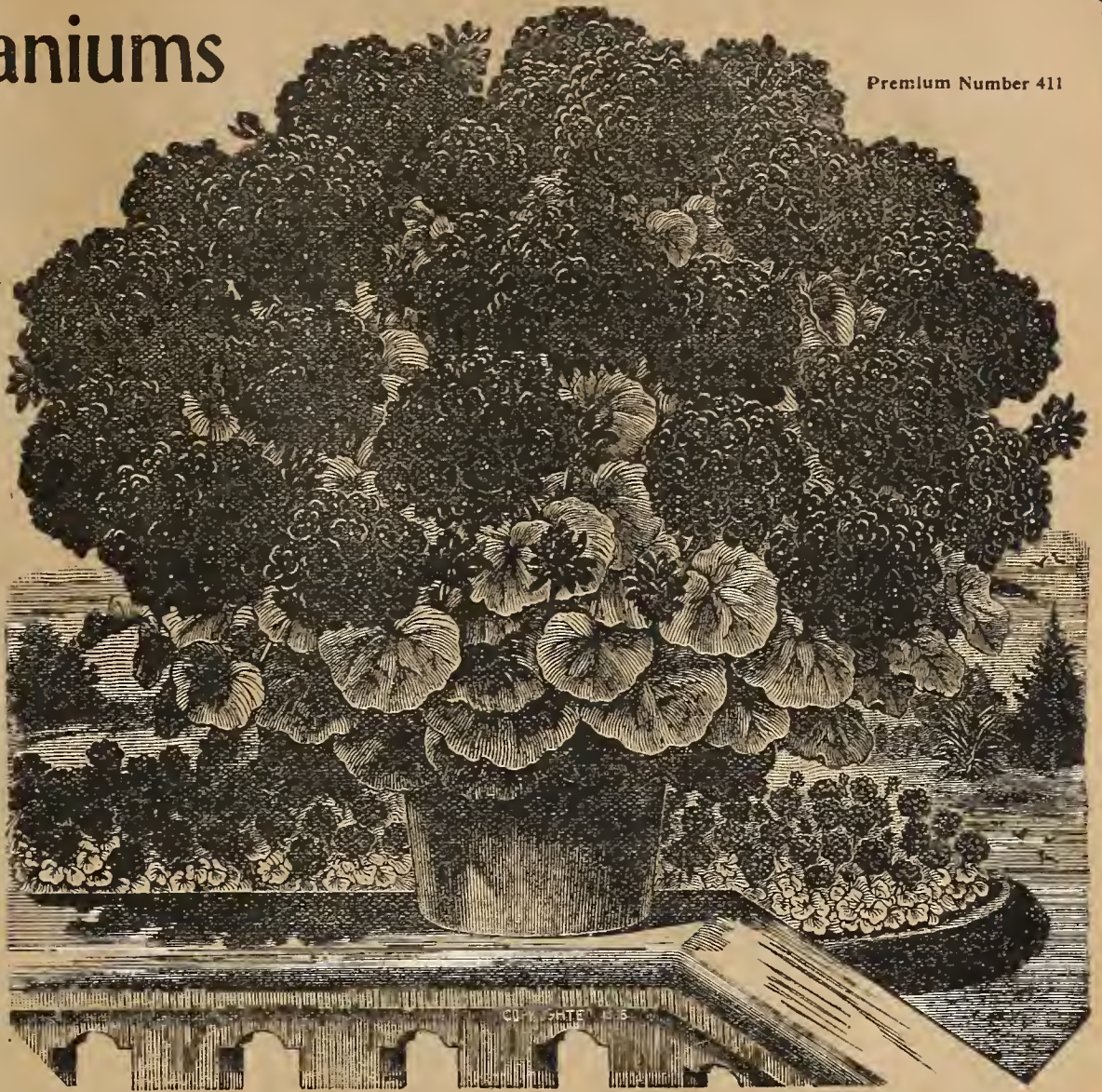


5 DIFFERENT COLORS, AS FOLLOWS:

One pure snow-white, one splendid crimson-scarlet, one brilliant rose-colored, one rich salmon, one beautiful pink, all of them free bloomers.



ORDER AT ONCE and your plants will be marked with your name and placed in the reserve greenhouse and kept growing. At the right time to set them out, or on any date you may specify, they will be mailed to you.



AN EXTRAORDINARY BARGAIN IN PLANTS

In order to introduce their plants into the homes of the many thousands of flower-loving readers of FARM AND FIRESIDE one of the largest firms of florists in this country (they are located here in our city) offered to furnish us at cost price 25,000 sets each of their choicest Geraniums and Roses for premium use. We accepted their proposition and now make the offers on this page. *Neither we nor the florists make one cent of profit on the plants.* All we want are the subscriptions and clubs, and the florists will be satisfied with the advertising they get. This explains how we can afford to offer such extraordinarily good bargains in the very best Geranium and Rose plants grown anywhere in America. All the choicest plants and expensive varieties.

Only the most popular, best-growing and finest-blooming varieties are included in the collections. The same plants will be listed in the florists' catalogues for 10 to 25 cents each, 50 cents to \$1.00 for a collection of six. (Because we offer the very same plants so much cheaper than their regular price is why we are not allowed to print the catalogue names here.) *All of the plants will be large, healthy and well rooted, and will bloom the coming season. We guarantee them to be exactly as described, to arrive in perfect condition, and to give entire satisfaction or money refunded. Send your order at once.*

Premium Number 410

6 of the Choicest Ever-blooming Roses

HOW TO GROW.....
Full instructions how to plant and care for them will be sent in each box of plants.

The Rose, as it has been perfected by scientific culture during the past few years, is a marvel of beauty and fragrance. Those who grow Roses at all should have only the latest and best kinds, such as are offered below, especially when they can be had so very cheaply. No finer plants or varieties are grown than these. They will grow in pots or in the garden, and can be left out of doors all winter. **All double-flowering.**

THE WONDERFUL YELLOW RAMBLER

This Yellow Rambler will withstand, without protection, a continued temperature of from zero to fifteen degrees below, which proves it to be the only hardy yellow climbing rose yet introduced. It can be successfully grown in all the northern parts of the United States and Canada. The flowers are borne in immense clusters, often as many as one hundred and fifty blossoms in a bunch, and the trusses have a handsome pyramidal shape. The color is a decided yellow.

THERE ARE 6 DIFFERENT COLORS AND VARIETIES

The collection of 6 roses includes all of the following colors: One Yellow Rambler Rose as described above, one clear bright rosy red, one bright pink, one delicate creamy white, one rich flesh-colored, one beautiful salmon-colored. All will bloom freely during the coming season.

It is almost certain that we will receive orders for more plants than the florists have agreed to furnish us. **Order at once** and your plants will be marked with your name and placed in the reserve greenhouse and kept growing. At the right time to set them out, or on any date you may specify, they will be mailed to you. When the supply of plants becomes exhausted money will be refunded.

We will send either the Collection of 5 Geraniums OR 6 Roses, and the Farm and Fireside one year, for **60 Cents**

No more than one collection with one yearly subscription. When the above offer is accepted the name may be counted in a club.

FREE

We will send either the collection of 5 Geraniums OR the collection of 6 Roses FREE for a club of TWO yearly subscribers to Farm and Fireside; or two collections for a club of FOUR; or three collections for a club of SIX, and so on.

NOTE THIRTY CENTS is the clubbing price for yearly subscriptions to Farm and Fireside without a premium to the subscriber. But members of clubs may accept any of our premium offers and their names can be counted in clubs. *RENE WALS can be counted in clubs.*

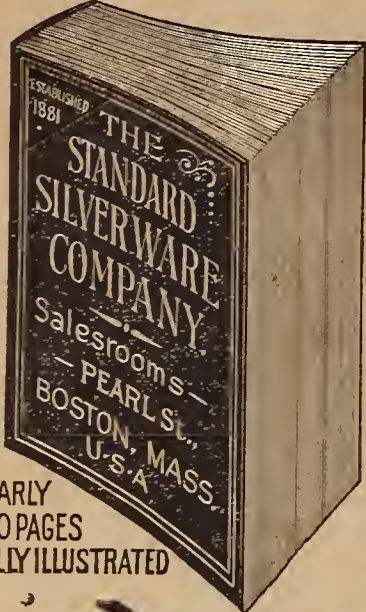
Address **FARM AND FIRESIDE, Springfield, Ohio**

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Postage on the plants paid by us in each case

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No Capital Required.



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The chance of a life time to make money and make it easily. If you are out of work, or not satisfied with your present business, and you would like to make more money, we can furnish you with profitable employment the year round. No experience required. We can teach you our business and if you have the average ability there is no such word as fail. We recognize the fact that your success is our success. Agents who follow our instructions always make money. The business is honest, the goods are the most durable of any product ever put on the market. The public eagerly examine your handsome samples and readily buy. We guarantee you the most pleasant, most reliable and best paying business you ever engaged in; in fact you are as sure to make from \$8.00 to \$5.00 per day as the sun is to rise. The goods we have for you to sell are those enumerated in our Catalogue, and mentioned below. **THE FIRST THING TO DO,** agency, is to send for the agent's outfit. It contains the very best and most salable articles in the world. There is nothing in the market that agents can sell as fast and so easily and make the profit that they can on goods shown in our illustrated catalogue. As soon as you receive the roll and catalogue you are ready for business. **THIS ELEGANT OUTFIT** is made up from the most salable and attractive patterns which we have, all put up in a very handsome, neatly arranged roll, convenient to carry, suitable for canvassing, together with our **Mammoth Illustrated Catalogue**, showing our entire line, Order Blanks and your appointment as our authorized Agent; in fact we send you everything necessary to do business with. Remember, this outfit is worth far more than you advance for it; in fact, the outfit costs us upwards of **One Dollar.** We only ask **46 Cents** as a guarantee that you mean business, and that you will accept an Agency, and make sales of our goods in your neighborhood. **POSTPAID 46 CENTS.** Send for our Outfit at once. To simply protect ourselves against many who would impose upon us by sending for an Outfit out of idle curiosity and with no intention of working; as a guarantee of good faith on the part of every applicant, we require a deposit of **46 Cents.** We will guarantee to refund this amount as soon as your orders have amounted to \$20.00, which amount you should be able to take in a very few days' time. As there have been so many advertisements issued, calling for agents where the outfit must be purchased in advance, people have become sceptical in regard to sending money for samples before they know what the goods are, what they cost, or who they are representing; hence we have decided to change our business methods, as we wish to satisfy every person before they order samples that we have goods which they can sell, and upon which they can make big money. With this end in view we will send, postpaid, **FREE** for the next thirty days, our **Mammoth Catalogue**, containing over 250 pages and 1,500 illustrations, printed on elegant paper, and handsomely bound, and costing us upwards of 50 cents each to print and mail. **REMEMBER** Our prices are fully ten per cent. below those of jewelry and department stores in most places. Wholesale or agents' prices and all necessary information for carrying on the business will be furnished with the Catalogue. On all orders for our goods from agents, we allow a discount of **one-half the retail prices.** Send **46 Cents** in P. O. Money Order or stamps for the Outfit. **OUR RELIABILITY** In order that those who have business relations with us may have full confidence in our integrity and responsibility, we respectfully refer to any of the large Express Companies in this City, who have carried for us during the past **nineteen years** thousands of shipments to all parts of the country. If our dealings were not straightforward they would be the first to know it. Address **STANDARD SILVERWARE COMPANY, 50 Pearl Street, Boston, Mass.**

OUR LINE embraces a large assortment of low priced Silver Plate Novelties, also Knives, Forks, Spoons, Napkin Rings, Tea Sets, Water Pitchers, Casters, Cake Baskets, Butter Dishes, Gold Watches, Silver Watches, Watch Chains, Diamond Rings, Jewelry, Clocks, Albums, Optical Goods, and a thousand and one useful household articles.



A New Yorker, who lately went on an excursion to New Mexico with a lot of railroad men, in a special car, reflected that alkali dust and champagne always upset his digestion, and determined to buy a box of Ripans Tabules at a St. Louis drug store.

"How do these sell?" he asked of the druggist. "We sell a lot of 'em," was the reply. "That gentleman who just went out bought a box. He is Commodore J. E. M. Maury of New York, who is on this New Mexican excursion."

As days went by, our friend took a Tabule after each meal and one before going to bed, and was as regular as a top. So too was the Commodore. In a few days, however, most of the party suffered more or less from over-eating, over-smoking, alkali dust, want of exercise and indigestion. Nearly every one complained of constipation, and the Commodore, like a good angel, produced his box from time to time, and in every case relief followed his kindly ministrations.

"How does it happen," asked the Commodore of our friend, "that you alone escape the inconvenience all the others suffer from? Only you and I escape." But our friend was foxy and would not admit that he too was a slave to Ripans Tabules; but all that party carry them now when they go where meals are irregular and the water is bitter or poor.

A new style packet containing **TEN RIPANS TABULES** in a paper carton (without glass) is now for sale at some drug stores—**FOR FIVE CENTS.** This low-priced sort is intended for the poor and the economical. One dozen of the five-cent cartons (120 tabules) can be had by mail by sending forty-eight cents to the **RIPANS CHEMICAL COMPANY, No. 10 Spruce Street, New York**—or a single carton (**TEN TABULES**) will be sent for five cents.

ACME PULVERIZING HARROW

CLOD CRUSHER AND LEVELER. For all soils and all work. Crushes, cuts, lifts, pulverizes, turns and levels. Cast steel and wrought iron—practically indestructible. Cheapest riding harrow and best pulverizer on earth. Sizes 3 to 13 1/2 feet. **SENT ON TRIAL** To be returned at my expense if not entirely satisfactory. I deliver free on board at New York, Chicago, Columbus, Minneapolis, Louisville, San Francisco and other points. Catalogue mailed free. Address **DUANE H. NASH, Sole Mfr., Millington, N. J., or Chicago, Ill.**

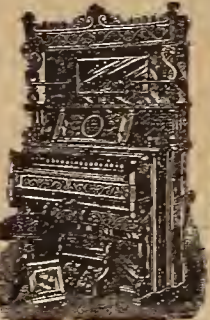
Agents Wanted

FREE PIANOS OR ORGANS One Year's Trial

All freight paid by us if not satisfactory

OVER 50 STYLES TO SELECT FROM

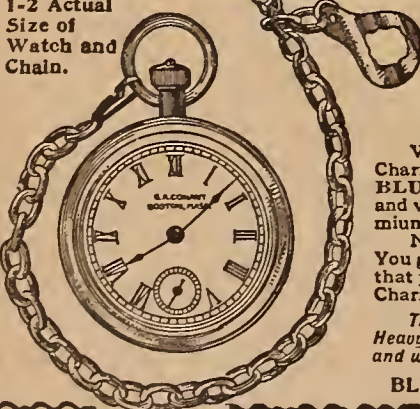
No money in advance. Safe delivery at your depot insured. Installments. Easy payments. Our new 1899 Catalogue shows it all. Send for it today. Our Catalogue Handsome Premium Free. Shows you how to get a Don't buy elsewhere until you have seen our \$155.00 up. Our new 1899 Coupon entitles you to deduct \$10.00 from the price of any Organ, or \$20.00 from any Piano. We give more for the money than any Company in the World. You can prove it by sending a postal card for the largest and best Catalogue in the world. Our Motto: **LARGE SALES, SMALL PROFITS.**



You may not buy from us, but get our Catalogue. It will at least make other companies come down to our prices. We can save you money and we are prepared to prove it. Our factory, with its enormous capacity, enables us to sell you a high-grade instrument at a figure much below that of any other company in the world. **Incorporated for Fifty Years. We Lead, Others Follow.** **BEETHOVEN PIANO AND ORGAN COMPANY** BOX 628 WASHINGTON, N. J.



This Cut is 1-2 Actual Size of Watch and Chain.



Watch and Chain FOR ONE DAY'S WORK.

We send this Nickel-Plated Watch, also a Chain and Charm to Boys and Girls for selling 1 1/2 dozen packages of **BLUINE** at 10c. each. Send your full address by return mail and we will forward the **Bluine**, postpaid, and a large Premium List.

No money required. We send the **Bluine** at our own risk. You go among your neighbors and sell it. Send us the money that you get for it and we send you the Watch, Chain and Charm, prepaid.

This is an American Watch, Nickel-Plated Case, Open Face, Heavy Bevelled Crystal. It is Guaranteed to keep Accurate Time, and with proper care should last Ten Years.

BLUINE CO., Box 392 CONCORD JUNCTION, MASS.

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Direct from Factory at Wholesale Prices. 30 per cent. saved. Guaranteed two years. Write at once for new beautifully illustrated 200 page Catalogue showing latest styles in large variety, from a \$10 cart to the most stylish carriage. Prices in plain figures. Testimonials from every state. Highest awards at World's Fair and Atlanta Exposition. Write to-day. Catalogue Free. **ALLIANCE CARRIAGE CO., 213 East Court Street, Cincinnati, Ohio.**

M. M. S. POULTRY FENCING

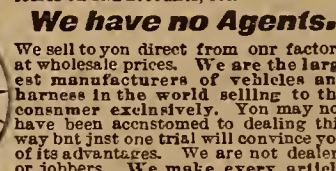
is thoroughly interwoven but has long horizontal wires, which classes it as **A FENCE, NOT A NETTING.** Like a fence, it can be properly stretched and erected with few posts and without top and bottom rails. Has cable selvage and a cable running through the fence every foot. Each roll contains the famous M. M. S. trade mark. None other genuine. We are manufacturers also of the following famous fences: **CABLED FIELD AND HOG FENCE** with or without lower cable barbed. All horizontal lines are cables. **STEEL WEB PICKET FENCE** ideal fence for lawns, parks, cemeteries, etc. Steel gates, posts, etc. Everything the best of its kind. **DE KALB FENCE CO., 38 High St., DE KALB, ILL.** Pat. July 21, 1896. Pat. July 6, 1897.



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CHINESE AGRICULTURE

BY WILLIAM N. BREWSTER

In order for the American farmer to understand how the Chinese cultivate the soil it is necessary first to understand something of the conditions of life here in southern China. In the first place, the population is so dense that land is very expensive. Fertile fields, with plenty of water, near a good market, and where the owners can watch them against thieves, are worth to the owners prices that seem like the fictitious values of corner lots in a booming western town in America.

As I write I am passing by fields that will bring \$600 (Mexicans) an acre. The owners of these fields have them worked for ten cents a day, or about \$3 a month. That is, an acre of ground represents the wages of an ordinary day-laborer for two hundred months, or nearly seventeen years. Of course, all land is not worth so much as that; much of it will bring not more than half that, or even less; but good rice-land, well located, is commonly valued at that figure, or even more. A laborer on the farm in America wants at least \$1 a day. Very little farm land without improvements is worth \$100 an acre. The laborer can earn an acre in three months as easily as the Chinese coolie could earn it in seventy times that time.

It goes without saying that where land is so valuable it must be made the most of by the cultivators. There are no unsightly rail fences meandering about over the face of the earth, taking up as much space as a turnpike ought to. In fact, there are no fences at all. There are high earth and brick-walls around houses, and sometimes orchards are thus closed in, but never fields. They have no barbed wire for fences, and a wall would not only occupy space, but would shade the ground, besides costing a large sum to build it and keep it in repair. How do they keep the cattle out of the grain? That is simple enough. They keep them in the house, not the stable. I have never seen a stable in China. No cattle would stay there long, if locked up in a building by themselves; thieves are too abundant. When a cow or ox wants to graze, it is led out by one of the family, and led back again after nipping tufts of grass on the canal bank or the roadside. Except upon the mountains there are few, if any, fields for graz-

ing. They cannot afford to grow grass upon land that will produce rice or sugar-cane.

One fact that greatly increases the productiveness, and hence the value, of land in southern China is the fact that it can be cultivated the year round. Being in the latitude of Key West, we seldom have frost or snow in the valleys, and three crops are grown every year, two of rice in the spring, summer and autumn, and one of wheat, beans or hardy vegetables in the winter. But for this constant cultivation the population of this part of China could not be supported at all. An experienced and reliable farmer has just told me that one acre of ground produces abundant food for six

persons. This estimate is so universally accepted that it cannot be far from correct.

The Chinese have the amount necessary for them to eat calculated down to the last ounce. But that makes three thousand eight hundred and forty persons to the square mile. There is very little grain exported from this part of the country. Exportation is generally prohibited by the government, so that all they raise is consumed by the producing population. Now add to this the fact that rice must be imported, or that there is an insufficient supply, even in good years, and that the great body of the people do not have enough to eat, and some faint conception can be formed of the density of the

persons on shares or for cash. The small land-owners generally cultivate their own fields. They go out to their fields from the villages. The object of this way of living is twofold:

First—It is more economical of land. These villages are built up as closely as the crowded city. They have small yards or none at all attached to their houses, streets are only narrow alleys, for foot travel exclusively, and nearly all the houses have what we would call several families living in them; that is, several generations of the family.

Second—For safety. Village and clan quarrels are so common and fierce that the instinct of self-preservation has driven the people of

paths traverse these hills and valleys. To make them wider would take a strip off of the fields on either side. This is not to be thought of. So generation after generation of farmers have carried their produce to market upon their shoulders, unless they were so fortunate as to live near a canal. Not a little of the Chinese economy is of this "saving at the bung-hole" kind. There is nothing upon wheels in this part of China, nor are there any roads for wheeled vehicles, not even wheelbarrows. All transportation by land is done by human

strength, by men as beasts of burden. This one bit of extravagance neutralizes much of the economy of the farmer. He wastes in needlessly laborious and expensive transportation much of what he saves by such minute pains in cultivation.

The American farmer is not always contented with his lot. Too often the complaint is of short crops or nothing for good crops. Life's joys and sorrows are largely in contrasts. What is hardship to the rich is luxury to the poor. One season's experience of the Chinese farmer for the most discontented American king of the soil would send him back to his native land thanking God for the easy life of abundance given him in a Christian land, more favored of Providence than any other under heaven. If the American farmer had to keep his live stock, chickens, cattle and pigs, under his own roof in order to keep them from being stolen; if he had to watch his fields every night as soon as the grain began to turn, or the fruit to ripen, or the potatoes large enough to eat; if he had to harvest it with a little grass-hook, and thresh it with a flail, and carry it to market upon his own shoulders; if the price of land were so high that to buy even an acre of it was a hopeless task; unless he had inherited wealth, or made a happy stroke in business; if he had to pay twenty-four per cent interest if he was so unfortunate as to have to mortgage his land; a few months of such experience would send him back to "God's country" contented with his lot. It is the difference between Christianity and heathenism.

BIOGRAPHICAL NOTE.—Rev. William N. Brewster, the author of this article and the one to appear later, is a native of Ohio and a graduate of Ohio Wesleyan University (1883) and Boston School of Theology (1886). After preaching two years in Cincinnati he was sent by Bishop Thornburn as a missionary to Singapore, Malaysia; and in 1890 was appointed to take charge of the Methodist mission work in the district of Hing-hua, China, seventy miles south of Foochow. Here he has labored for the last eight years with ever-increasing success. His work now includes over one hundred native preachers and several thousand members—much of it is self-supporting. He is an expert on life in southern China.

"The Chinese are emphatically an agricultural people. From time immemorial the sovereign has initiated the year, which begins in the spring, by turning over a few furrows in the 'sacred field;' and in each province the highest authority performs a similar ceremony—to impress on the people the importance of husbandry. The hoe holds the place of our spade; the plow retains its primitive simplicity; irrigation is assiduously and skillfully employed."



RICE-FIELD AND FARM VILLAGE



CHINESE PLOWING—THE SMALL COMMON OX

population upon the plains and river valleys near the coast of southern China.

Another saving of land is in the way the farmers build their houses. The Chinese have no word for "home," it is simply their "house." There are no country residences behind a beautiful grove reached by a winding avenue, ending before the old-fashioned red-brick homestead, with flowers and lawn and ornamental shrubs, and twelve manner of trees bearing their fruit in their season. The farmers all live in villages of from fifty to twenty thousand or more inhabitants. The rich seldom own large sections of land in one place. They own fields here and there, and rent them to their poorer neigh-

one surname to living together in these crowded little villages for protection from their heathen neighbors.

Another natural consequence of this density of population is the cutting up of the land into very small fields. We would call them garden-plots. One half acre is a very large field. Ordinarily a field is not more than about one sixth of an acre. The whole landscape is like the market-gardens in the neighborhood of some of the American cities. Weeds have no chance to get started in these well-tilled fields.

One way of saving land results in an enormous waste of labor. It is in the narrowness of the roads. Only narrow foot-

FARM AND FIRESIDE

PUBLISHED BY

MAST, CROWELL & KIRKPATRICK

OFFICES:

147 Nassau Street,
New York CitySpringfield,
Ohio204 Dearborn Street,
Chicago, Illinois

Subscriptions and all business letters may be addressed to "FARM AND FIRESIDE," at either one of the above-mentioned offices; letters for the Editor should be marked EDITOR.

TERMS OF SUBSCRIPTION

One Year - (24 Numbers) - 50 Cents
Six Months - (12 Numbers) - 30 Cents

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DR. S. A. KNAPP, who was sent by the United States Department of Agriculture to Japan, China and the Philippines as an agricultural explorer, has reported the results of his explorations to Secretary Wilson. The portion of the report relating to the Philippines reads as follows:

"On arrival at Manila he found it somewhat dangerous to go into the country, but concluded to go by rail as far as San Fernando, passing through the rice section to the east and north of Manila, on to the sugar lands to the north. He observed that but a small portion of the rice lands was irrigated; that the fields were small, and the system of planting and harvesting similar to that of Japan. The water-buffalo is universally used for plowing and drawing loads. Depending mainly upon the rainfall for irrigating the rice, planting is not done till commencement of the rainy season. Much of the rice was still unharvested at the date of his inspection (December 10, 1898). The yield to the acre, according to the best authorities, is about one thousand pounds of hulled rice on lands under rainfall irrigation solely, and two thousand pounds on lands artificially irrigated. This shows very careless husbandry. With such lands, and under such a favorable climate, the product to the acre should be much greater.

"The rich clay-loam soil about San Fernando is well adapted to sugar-cane. In the island of Luzon the methods of sugar-farming are quite different from those practised in the United States. The cane is not allowed to ratoon, but is planted annually. At the time of cutting the cane for the mill the immature portion of the stock is planted in a field previously prepared. Very little cultivation is done. The cane matures in twelve months from planting, and is harvested before the rainy season commences in May. The sugar-factories in Luzon are the crudest conceivable. The mills are not better than farm sorghum-mills. The kettles are simply wooden tubs with cast-iron bottoms. The sugar is drained upon the open-kettle plan. The proprietor furnishes land and factory, and the tenant furnishes seed, does all the work in the field, delivers the cane to the mill, and supplies most of the hands for making the sugar. The proprietor receives one half the sugar and all

the molasses. The tenant, in theory, is allowed the remainder, but in practice he usually receives about two fifths of the sugar. Dr. Knapp was informed that in the islands of Panay, Negros and Cebu the sugar farms and factories are much more improved than in Luzon. Sugar lands produce from three thousand to eight thousand pounds to the acre, depending upon the cultivation and the factory.

"The Filipinos, as far as he observed, do not give as much attention to the production of nitrogenous foods as the Japanese, and hence are less muscular. He was unable to visit the tobacco section in North Luzon and the hemp district of South Luzon. Spanish statistical reports and his interviews with exporters at Manila satisfied him of the prosperity of these industries under normal conditions. Millet, maize, sago and indigo do well, and are ordinarily profitable crops. Philippine coffee, of which there were formerly many plantations, has a peculiarly rich and pleasant flavor. Evidence was presented to him showing that the industry can be made profitable. Cocoanuts, pineapples, oranges, bananas, grapes, figs and many other fruits grow spontaneously; with reasonable care they would become articles of export.

The Philippine islands abound in valuable wood for building, furniture, dye-woods, and some yielding costly gums. While unable to visit the forests, Dr. Knapp saw many remarkable specimens cut from the giant trees, among which was a section of a mahogany-tree from Mindanao over seven feet in diameter. Consul Williams shipped this to his home in New York.

"According to the best authority nearly two thirds of the land is still public, and passes to the United States with the title. If opened for settlement to soldiers, many of our young men will remain and become permanent settlers. Some associations of this kind have already been organized. The price of improved land ranges from four dollars to twenty dollars an acre (gold), depending upon the location and value of the improvements. Dr. Knapp spent several days in a real-estate office examining plats of plantations, and discussing improvements and prices with proprietors of estates from a number of the islands. A sugar-plantation of twenty-five hundred acres in the extreme southern portion of Luzon was offered at twenty dollars an acre. It was well situated, all arable land, good buildings, sugar-house, modern, with vacuum-pan; eight hundred buffaloes, and twelve hundred people on the place. The proprietor claimed to have received an annual net income of sixteen thousand dollars (gold) from the property. He was a Spaniard, and wanted to leave the country.

"Reports of the observatory at Manila show that the average rainfall for the past thirty years has been seventy-five and four tenths (75.4) inches. It varied considerably in different years. In 1885 the total was 35.6 inches; in 1897 it was 120.9 inches. In December, January, February, March and April the rainfall averages from one half an inch to two inches a month. In May it is nearly as much as in the five months preceding, and precipitation increases until September, during which it amounts on an average to 28.2 inches, then it decreases until December. The temperature is quite uniform, averaging during the past eighteen years 77 degrees for January, the coldest month, and 83.8 degrees for May, the warmest month. Within that period the thermometer only once rose to 100 degrees, and once fell to 70.4 degrees.

"Prominent Filipinos assured Dr. Knapp that upon their estates the laborers were industrious and thrifty, and if encouraged these conditions would become general. A visit to the carpenter-shops, machine-shops and various small factories satisfied him that the Filipinos make good mechanics when properly trained."

THE "Speaker" (London), commenting on the Philippine situation, says:

"It must be noted throughout the present struggle that the Filipinos have put themselves in the wrong. The plea that they were fighting in defense of their rights does not hold good in the case of Manila, which is the center of European interests. It could not be left to the mercy of revolutionaries.

"America, through no fault of her own, has become responsible for the good government of the Philippine islands, and is bound to suppress Aguinaldo, as we suppressed Arabi Pasha for the protection of European interests in Egypt. It may be possible here-

after to give the Filipinos local self-government, even independence, but for the present it is absolutely necessary to secure peace at Manila for the maintenance of the commerce of the islands. If, by threatening this, the Filipino government made itself impossible, the fault lies with itself and not with the United States, for the present troops in the newer West are the mandatories of civilization and are carrying on the war in the interests of peace."

IT is a safe prediction that the day is not far distant when the telephone will be in general use throughout all progressive rural communities. The Boston "Herald" describes a system of country telephones, which is a fair example of hundreds now in use, as follows:

"An experiment in the telephone business has been made in Geauga county, Ohio, which deserves to receive public attention in consequence not only of the success that has attended the effort, but as an incentive to other rural communities to go and do likewise. This county is one of the most rural in the state of Ohio. It has no cities, and only two or three villages, and yet every one of its sixteen townships is connected by telephone, and it has for the service intended the better telephonic connection than any other county in that state. The company carrying on this business was formed two years ago by eight of the leading farmers in the county, who believed that it would be of benefit to them if they could receive the advantages of cheap telephonic service, and that as their condition did not materially differ from that of their neighbors, if this were supplied these latter would avail themselves of the opportunity.

"The cost of the system, including poles, one wire, and the necessary work of putting all things in place was about fifty dollars a mile, this meaning first-class material and work. Some economy was possible from the fact that the stockholders did a large part of the work themselves, and while construction was going on the president of the company might be seen measuring off the distances, the manager with a helper digging holes, and the treasurer of the company putting on cross-arms and pins, while all hands were engaged in the work of raising the poles and stringing the wires. At the outset one or two expert workmen needed to be employed in putting in the telephones and making proper connections, but in a short time several of the intelligent farmers, particularly the one who acted as manager, succeeded in acquiring enough technical information to do whatever work was needed.

"The telephones are leased at a rental of \$12 a year or \$1.25 a month, payable in advance. This includes furnishing the telephones, making connections and keeping everything in repair. Besides this, the patrons are given the free use of two quite extensive lines, extending beyond the county. The anticipations of the inaugurators of this scheme, so far as usage is concerned, have been more than satisfied. When once introduced into a farmer's house the telephone is never taken out, as it soon becomes not a luxury, but a necessity.

"Probably no class in the community can be benefited in their social and industrial lives to a greater degree than the farmers by thus being able to communicate speedily and directly with their friends, neighbors, or with the country merchants with whom they have business dealings. Ordinarily, a farmer in a country district of large farms is compelled to ride or walk a long distance to the nearest country town to obtain information concerning prices for needed supplies. Besides this, the isolation of the family life is such that the opportunity to converse with friends at a distance is a privilege of very great value; and where this can be secured at the price of four cents a day it is certainly a cheap investment to make, and one which it is not strange that the intelligent and progressive Ohio farmers are willing and eager to avail themselves of.

"We do not mean to assume by what we have said that a basis of price such as this is one that would be possible in densely settled districts, where business or social communications were frequently made. On the contrary, it is a fact which is too often overlooked or ignored that the cost of carrying on telephonic service increases almost in geometric ratio with the number of telephones employed; that is, a telephone exchange which has 2,000 subscribers costs not ten, but probably twenty, thirty or perhaps forty times as much to maintain as a tel-

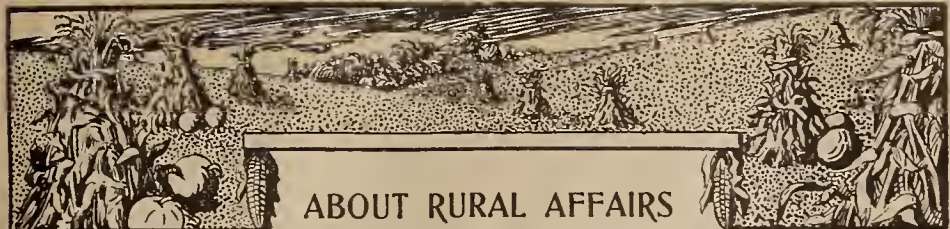
ephone exchange which has only 200 subscribers. Service in the country districts, where eight or ten subscribers can be put upon one line, is obviously cheaper than where each subscriber has a line to himself. But the Ohio experience makes it clear that in the country districts of this and other states little local systems can be established which would be exceedingly useful, and at the same time remarkably cheap in the cost of operation."

THE winter has been one of the most severe on record over the whole wheat belt, according to the special report of the "American Agriculturist." The report says the ground everywhere has been frozen to a depth beyond all precedent, and, to accentuate this condition, snow protection has been very limited. Except in the extreme southern part of the belt the last week of March brings no appearance of spring growth, yet it is apparent that damage has been in keeping with the severe character of the season. The April 1st report of condition, even in a normal season, must be taken as only an attempt to approximate the general situation, and this is what has been done in consolidating into state averages returns of correspondents. For the whole crop this shows a preliminary estimated condition of 82.1, against 89.0 last year, and the lowest figure reported at this date in five years. In the southern part of the winter-wheat belt the figures by states probably closely approximate the actual situation. But in the northern and more important districts the advent of April weather may materially change the character of the reports. The report makes it appear that in New York and Pennsylvania there was fair snow protection, while in Texas the prospect is poor, and in Tennessee and Kentucky it is not good; Ohio enjoyed snow protection over the greater part of the state; the situation in Michigan is still largely a matter of speculation; only a few counties in Illinois are satisfactory; returns from Iowa are unfavorable; Missouri is irregular, and Kansas less favorable than from any other important state. During the last ten days of March there was an abundant rainfall over the whole of California, effectually relieving earlier apprehension. The feeling among wheat-growers is that the crop as a whole can hardly recover its normal vigor, yet caution is advised against superficial views of crop failure. The crop has suffered, and severely, but it is far from a failure as yet.

SAY what you please about trusts," says the Richmond "Times," "the fact is that these organizations are making goods that the people want and that the people will have, because they are making the cheapest and best goods in the world. It was contended at one time that the trust must be discouraged because its object in monopolizing trade was to advance the price and to practise extortion on the people. Perhaps that was the object, but it is a notable fact that wherever such extortion was attempted failure was the result, and the trust organizations have discovered that the only way for them to succeed is by making their goods popular with the people, and that the only way to make their goods popular is by making them the best and the cheapest.

"The people have got it into their heads that the trusts are terrible things and that they should be put down, yet there is a popular demand for the goods which the trusts are putting out, and it cannot be denied that their goods are the best and the cheapest that the world has ever known. The people abuse the trusts, but they are going to buy the trusts' wares because it is to their interest to do so, and the states which attempt to exclude the trusts while such trusts are doing business in their borders are going to hear from the people.

"We have been watching with keen interest for the terrible disaster that is to come upon this country, as prophesied by the politicians, from the existence of great corporations. But the disaster has not yet come so far as we can see. It is true that some of the middlemen have been eliminated, but that the great mass of people, the working people, the salaried of this country, have been benefited by trusts no man can truthfully deny. If the people did not want trusts they would rise up in their might and boycott all goods that the trusts made and drive them out of business; but the patrons of the trusts are the people of the United States, and it is the people we say who keep these trusts alive. All sorts of attempts have been made in various lines of industry to introduce anti-trust goods, yet the people who cry out against trusts have discarded the goods of the opposition and purchased the goods of the trust which they hate."



ABOUT RURAL AFFAIRS

Animal Food for Chicks

The New York state experiment station has been making some comparative trials in feeding chicks, one lot with a clear grain ration, the other with part animal food. The result simply serves to emphasize lessons we learned long ago. It is now over twenty years, to my knowledge, since "animal meal" was introduced, and I have been using it more or less ever since. This animal meal is a dry substance, consisting of steamed and dried meats, bone and blood, with the addition of charcoal to keep it sweet. Looks and even smell remind one of some kinds of fertilizer. I used to mix a small quantity of this into the materials from which I made my cake for chicks, such as corn-meal, bran, middlings, etc. I found this cake so satisfactory that I have recommended it freely ever since. The chicken-growers of Ham-monton, N. J., feed a similar cake to their chicks to this day. For some years I have been adding linseed-oil meal to the mixture of grains for this cake, and substituted dried blood or green cut bone for the animal meal. In all cases the experience has been in favor of the addition of some animal food. My chicks have always done so much better and made so much quicker growth when animal food of some kind was added that I did not and do not wish to omit the addition. The outcome of the trials at the station, therefore, was no great surprise to me, but my calling attention to it may help some of our readers on the road to success in raising chickens.

In one of the trials the chicks were fed, until twenty-five weeks old, upon a grain mixture of twelve parts corn-meal, four parts wheat-flour, two parts ground oats, one part wheat-bran, one part wheat-middlings, one part pea-meal and one part old-process linseed-meal, with wheat, corn, animal meal and fresh bone. A corresponding lot received a grain mixture of six parts pea-meal, four parts old-process linseed-meal, two parts wheat-bran, two parts ground oats, two parts high-grade gluten-meal, one part wheat-middlings and one part corn-meal, with wheat, corn and skim-milk or curd. More food was eaten by the lot receiving animal protein; the gain in weight was more rapid, and maturity was reached earlier; less food was required for each pound of gain, and the cost of gain was less. During the first twelve weeks of this trial the chicks on animal meal gained fifty-six per cent more than those on the vegetable diet, although they ate only thirty-six per cent more; they required half a pound less of dry matter to gain one pound, and each pound of gain cost only four and one fourth cents as compared with five and one fifth cents for the grain-fed birds. During the next eight weeks the cost of gain was seven and one half cents and eleven and one fifth cents, respectively. The animal-meal chicks reached two pounds in weight more than five weeks before the others; they reached three pounds more than eight weeks sooner, and three pullets of the lot began laying four weeks earlier than any among the grain-fed birds.

Meat for Ducks

Still more remarkable, or, as the station people say, "almost startling," was the difference in results from the contrasting rations in the case of ducklings. Two lots of ducklings were fed, respectively, on the first grain mixture mentioned for the chicks, with corn-meal, ground oats, animal meal and a little skim-milk and dried blood; and on the second mixture, with wheat-bran, corn-meal, ground oats and skim-milk or curd. Both lots were fed green alfalfa, and sand and coarse grits were freely supplied. Before the experiment had been long under way it was noticed that the animal-meal birds were developing rapidly and evenly, but the grain-fed ducklings were becoming thin and uneven in size. "It was sometimes almost pitiful to see the long-necked, scrawny, grain-fed birds, with troughs full of good, apparently wholesome food before them, standing on the alert and scrambling in hot haste after the unlucky grasshopper or fly which ventured into their pen; while the contented-looking meat-fed ducklings lay lazily in the sun and paid no attention to buzzing bee or crawling beetle. The thirty-

two meat-fed birds lived and thrived, but the vegetable-food birds dropped off one by one, starved to death through lack of animal food, so that only twenty of the thirty-three were alive at the close of the fifteenth week of contrasting feeding. They were then fed for four weeks on the meat-meal ration, and made nearly as rapid gains as the other lot at the same size two months before; but they never quite overcame the disadvantage of their bad start on grains alone." Where young birds are given free range, of course, these marked differences cannot be expected, as all birds will find animal nitrogen in bugs, worms, etc. But I have always found difference enough even then to pay me well for the extra expense incurred in providing animal food, whether this be "animal meal," ground (cut) bone and meat or dried blood.

Sweet-corn Meal

A reader in Colorado suggests the idea of raising sweet-corn to grind into meal, and to put this on the market as "sweet-corn meal." He says: "For a long time I was under the impression that sweet-corn could not be ground on account of gumming up the burrs. But an old miller tells me he has ground it, and that when dry it is as easily ground as dry field-corn or wheat. A good quality of sweet-corn ground ought to make a delicious meal for cooking. Just imagine a 'Johnny cake' made from nice sweet-corn meal!" I know that sweet-corn makes an excellent meal, and there is not the least doubt that it can be ground when thoroughly dry. I should not wonder if there were a good opportunity hidden in this suggestion. The variety that one would want for such purpose is one which will have time to mature thoroughly where planted. Stowell's Evergreen is my main reliance for late sweet-corn for market or table, but it does not in every season reach that state of ripeness which would fit it for grinding. If I want it for seed I usually have to select the ripest ears and hang them up to dry. Possibly if I had a kiln such as hops are dried on, I might dry the bulk of Evergreen corn sufficiently for grinding. As I have stated before in these columns, there is usually every spring a good local demand for seed sweet-corn in most localities. People pay a big price to the seedsman for sweet-corn to plant. Possibly it might pay even better to grow the corn for seed than for grinding. Last fall I fattened my hogs on the late sweet-corn left over after I got through marketing boiling-ears. It was a very satisfactory experience. The hogs preferred the sweet-corn to the ordinary field-corn, and got very fat. At the same time I can raise a big bulk of sweet-corn and a big lot of fodder besides. So on the whole I believe that the sweet-corn crop is not as fully appreciated by most people as it deserves.

The Boll-worm

Our Colorado friend also speaks about the boll-worm, and would like to know the best way to prevent its ravages. I am afraid I shall not be able to help him much. In western New York I seldom see much of this pest, while in New Jersey and further south it does a great deal of damage. Last fall, however, I found a great many worms on my sweet-corn. As the corn was mostly fed out, they did not do so very much harm. If to be used for grinding into meal, the corn, when thoroughly dry, is to be shelled, then run through a fanning-mill, and will then be all right for meal purposes, whether there had been any worms on it or not.

T. GREINER.

SALIENT FARM NOTES

J. F. M., Wisconsin, writes:

Tile-drainage "I would like to know something about tiling my land. I have put in about six thousand three-inch tile, and it seems to me I am getting very little benefit from it. My land is ordinary black soil, from eight inches to two feet deep, underlaid by a stiff yellow clay. In a few spots the clay, or a sort of hardpan, crops out, and when the ground is wet, or when the frost has just come out, an old hen would mire down in it. Then when it is dry it is hard enough for bricks. I have a good outlet and a moderate fall toward it. I have been told

that a tile-drain will take out the surplus water for at least twenty-five feet on either side of it if it is put down three feet deep. My tiles have so far only drained about six or eight feet on either side of them, and as they are about one hundred feet apart they are doing me little good. How far apart ought I to have placed them? How wide a space should a three-inch tile, put down three feet, drain out quickly?"

In such soils as J. F. M. describes tile-drains should not be over forty feet apart, and if he can afford it, thirty feet is still better. If the subsoil is almost impervious to water it naturally follows that it must flow along the surface of this subsoil to reach the tile. That falling within ten or fifteen feet of the drain will not be long in reaching it, but that falling a greater distance away may not reach it at all, but will seek the depressions in the subsoil and remain there until evaporated. I have noticed, however, that the area drained by a tile gradually widens for several years after it is put in. For instance, I ran a drain through a strip of land very similar to that described by J. F. M. At the outlet it was twenty-eight inches deep, and at the head, forty rods distant, forty-two inches. The first season it drained a strip about six feet in width, as could plainly be seen by the rank growth and healthy appearance of the clover. The second season this strip was fully nine feet wide, and thereafter it averaged about nine feet on the upper side and fourteen feet on the lower. For six years this drain flowed continuously winter and summer. Then the owner of the adjoining tract, which was about eighteen inches higher than mine, ran a tile-drain parallel with mine and about eighty feet from it, and thereafter mine ceased flowing except during stormy weather and in early spring.

In another place I ran a three-inch tile-drain about thirty rods to reach a depression (about four feet above the outlet) that was water-logged every year until about the middle of June. When I reached the depression I found the upper black soil about six inches in depth, while beneath was a whitish clay that was utterly impervious to water, and I was obliged to use a pick to open the drain through it. Instead of covering the tile with the tough, leathery stuff taken out of the ditch, I hauled in a lot of ashes and cinders made from soft coal, and filled the ditch to six inches of the surface with them, finishing by rounding well up with the soil. The following season this depression, which covered a space about thirty by sixty feet, was as dry as any part of the lot, and it grew a good crop of corn, the first crop ever grown on it.

Tile-draining is expensive, and one should know to a certainty exactly what he is doing before he moves a spadeful of earth. Land that is only half drained is but little better than not drained at all. One should do a complete job as far as he goes. It is far better to thoroughly drain one acre than to half drain two, because if the work is well done it is permanent, and will be satisfactory to the owner of the land as long as he lives. Before he puts in a drain he should know whether or not he is locating it where it will do the most good. In this locality we have what are termed "seeps." They are wet, spongy places on the sides of low hills or along the sides of shallow ravines. They are caused by water flowing over an impervious subsoil and oozing out where that subsoil crops out along the sides of the hills. In order to drain a seep or dry it up one must run the tile-drain above the place where the water oozes out and drain it away. Yet I have seen very intelligent men make the mistake of putting the tile in the seep or below it. I have known men to thus waste thousands of tile. One drain put in above a seep, ooze or wet, cold strip of land will often prove a hundred times more effective than three or four in or below it. If one knows exactly what should be done before he begins, he will make no mistake nor waste valuable material.

Sweet-corn for a Soiling Crop

Corn-planting time is about here, and I desire to again call the attention of FARM AND FIRESIDE readers, old and new, to the great value of sweet-corn as a soiling crop to help out short pastures. From all I can learn about the clover crop it seems to have been severely injured by the hard winter, and in quite a number of localities it is entirely killed. This means,

in many cases, shortened pasturage and no loads of fragrant, blossoming green clover for the cows to fill up on in the cool of summer evenings. I know several farmers who make it a practice to give their milk-cows, even when pasturage is good, a wagon-load of clover every evening from the time it begins to bloom until it is almost dry. They declare that it pays, and I know from experience that it does. In my opinion there is nothing that so nearly equals this succulent, nutritious green food as sweet-corn. If the clover crop is injured, plant sweet-corn to take its place, and plant lots of it. I never yet knew a man to regret that he planted sweet-corn to feed his cows when pasture began to fail.

If one is short of pasture, and needs some soiling crop early, he should plant some of the earlier varieties of sweet-corn, like Perry's Hybrid or Moore's Early, both old, well-known varieties. These do not grow so tall as the later varieties, nor yield so much forage, but they are ready for cutting earlier, and the ground can be cleared off, replowed and a second crop planted, or be seeded to millet. The best late variety to plant is Evergreen. It is a large sort, growing as tall, almost, as common dent corn, and yielding a large quantity of forage. When planted early, about the time dent corn is planted, it is ready for cutting just about the time pasturage begins to get short, and something of this sort is needed to keep up the flow of milk in cows. It is advisable to plant it at intervals of, say ten days. Three plantings will supply green feed for cows until autumn.

If the soil is rich the corn should be drilled in rows about three feet apart. Do not make the mistake of drilling too thickly. I aim to plant so that there will be one stalk to every eight inches. When too thick its growth is spindling and it does not ear well. I like to have good ears on it, then if severe drought should ripen it quickly it may be cut, put in small shocks and fed out later, and it will do young stock as much good as an equal quantity of the best clover hay.

I have tried ordinary dent corn as a soiling crop, but it does not begin to compare with sweet-corn. Stock do not eat it so cleanly, and it does not fill the milk-pail like sweet-corn. If any reader of FARM AND FIRESIDE has not tried sweet-corn as a summer feed for cows or yarded pigs, he should do so this season. If he grows it well and feeds it judiciously he will be almost certain to keep on growing it as long as he farms.

FRED GRUNDY.

GYPNUM AND INFECTIOUS DISEASES OF CATTLE

For several years agricultural papers in Germany have occasionally mentioned cases in which gypsum had proved a valuable preventive in the spread of infectious diseases among cattle. This question has at length been taken up by Dr. Brauer, a noted veterinarian, who reports to the effect that when mixed with the litter the gypsum would act as a powerful disinfectant in the stable.

In one instance there was an outbreak of rothlauf among hogs. The disease was carried into five or six different herds, and more became threatened. By a careful cleaning out of all the litter in the pens of all herds, infected or not, and a copious application of gypsum to the floors before new litter was put in, the disease spread no further than it already had.

Dr. Brauer's experience with this disinfectant covers such diseases as anthrax, milk-fever, contagious abortion and the month and foot disease. He advises cattle owners and swine breeders to use it extensively.

J. CHRISTIAN BAY.

OLD-AGE PENSIONS

In New Zealand, where new experiments are always in order, the legislature has decreed that any citizen of sixty-five years of age, who has lived a life of honest toil, may receive, if he desires, a weekly income of five dollars. This is to set a premium on labor. It will work not only to the relief of old-age poverty, but it will be a mighty stimulus in favor of honest work. Meanwhile the parliamentary commission in England has decided in favor of old-age pensions, but cannot agree on any plan which it considers workable. The proposition does not by any means look toward the support of the dissolute and profligate. The world holds no sight more painful than that of a penniless old age.

E. P. POWELL.

OUR FARM

FARM THEORY AND PRACTICE

CONCERNING PLOWS.—Too many farmers regard "ease of draft" a leading consideration in the selection of a breaking-plow. There is no work of more importance in the field than the breaking of the sod in order that a seed-bed may be made. If this is thoroughly done in the right way a long step toward securing a good crop has been taken. If ease of draft is the one great consideration, the best thing to do is to keep the horses out of the field. The plow of easy draft is the one of purely wedge shape, inverting the sod or furrow-slice, while the object of plowing land is not only to invert the furrow-slice, but also to crush and pulverize it. Some pressure upon it by the end of the mold-board, and the twisting of it due to the curve in the mold-board, before the air hardens the soil, does vastly more good than casual observation may indicate. A network of minute cracks is made through the furrow-slice that is a long step in the work of pulverization. If this fining of the soil is wanted, and it is essential to a good seed-bed, then there must be added draft to secure it. The easy-running plow is such usually simply because it does not do the full work of a plow, but merely inverts the furrow-slice in the easiest way possible, leaving all fining to harrows that must be drawn by horses walking in rough and loose ground. Additional draft of a plow, due to proper fining while inverting the soil, is comparatively small—possibly ten per cent, according to experiments—and this work of fining can never be so cheaply done and with so little labor to teams later on. The good plow is the one that does the best work. The short, straight mold-board can invert a furrow-slice, but it cannot do anything more.

SEED-POTATOES.—The severity of the winter sent the price of potatoes upward, and again we plant high-priced seed. Care must be used that chilled potatoes may not be planted, as such seed is always disappointing. The effect of chilling may be detected by dark lines under the skin of the tuber. The use of costly seed for early planting in the central states becomes more and more a risky venture for the grower on account of the prevalence of early blight. This disease, due to a fungus, is difficult to control. Where late-planted potatoes can be successfully grown, the best way of escaping attack of this disease is to plant in June, depending upon fall growth of the crop. South of the fortieth parallel late potatoes cannot be successfully grown except in a few favored localities. What is to be the future of potato production in that section is yet a problem, but I incline to believe that more northerly sections will produce an increasing proportion of the country's potato crop, while the acreage in the great Ohio valley will be restricted chiefly to a very early crop for consumption before the late crop is ready for market. It looks that way now, though this early blight may pass away or lose much of its virulence. Spraying with Bordeaux mixture is not very effective in hot, showery summers.

DEEP PLANTING.—The depth of planting of potatoes depends upon the character of the soil and its drainage, and in fairly loose and dry soils I like to have the seed deep in the ground, but do not like to have the seed start the buds under a heavy covering of soil that excludes the air and light. The practicable thing to do is to make a deep furrow, plant in the bottom of it, and then cover very lightly, filling in the furrows as the plants make growth. This may be done in hand-planting, or in machine-planting if one has the right kind of a machine. I like a planter that throws out a deep furrow, and if it has covering disks, these can be removed and some simple device be used for dragging a little soil over the seed in the furrow. Seed exposed to light and air make the most vigorous plants, and while in early planting it is not practicable to bud them in the light, as is done in treatment of seed for late planting, a thin covering of soil is a step in that direction. For June planting the seed should be left in the light for two weeks before time of planting, the potatoes being spread so thin on floors that the sprouts will not grow to any inconvenient length, but will become stubby and strong. For early planting the modification of the "Rural trench system" that I suggest works well. In wet soils and in stiff clays it will not do well, it being necessary to keep the seed

near the surface of the ground, and then ridge the rows in cultivation.

THE WEEDER.—No more valuable implement for the cultivation of crops has been introduced in recent years than the weeder. It is a great labor-saver, and does the very kind of work that is most needed, stirring the soil in the hill about the plants. Naturally its best work is done in loose soils, but it can be used successfully in quite stiff clays if used right, and on such soils it is most needed. If the soil is compact, ordinary cultivators must be used first, and then the weeder can break up the narrow ridge of soil in the row, and it is that strip of ground that needs stirring most. The weeder cannot destroy weeds two or three inches high, nor can it break a crust that has been forming for many days after a rain, and it is not made for such purposes. Work with it is speedy, and the idea is that one will run over the fields rapidly as soon as practicable after a rain, destroying millions of weeds that are just starting life, and loosening the surface of the ground before it forms a hard crust. A "weeding" lets the air into the soil, kills tiny weeds by wholesale, and checks the loss of moisture. I am slow to recommend the purchase of many new farm implements, knowing how costly a full equipment has become, but I know that a weeder on many a farm saves much more than its cost every year, and that such an investment would be profitable to thousands that have not given the weeder a trial. There are a number of good "makes" upon the market. Get one on trial if your ground is not stony or quite hard. Success in farming to-day lies along the line of better tillage. Our plants must have thorough and cheap culture if we would succeed.

DAVID.

BUTCHER-BIRDS

To find a mouse or small bird firmly impaled upon the prong of a thorn-apple tree or a barb of a wire fence has frequently aroused the wonder and curiosity of the casual observer as to the cause of this mysterious tragedy. But the observing farmer has long since found out that both these and large insects are thus placed by the shrikes, or butcher-birds. It is in such a manner that these birds store up a supply of food for

times of scarcity, though like some biped animals they have come to so enjoy this habit that much more food is accumulated than is used. Both on account of this habit and the nature of their food it is evident that they must have a direct economic importance as related to agriculture, and upon this subject Mr. Sylvester D. Judd, of the United States Department of Agriculture, has recently published a most valuable account of his investigations.

By the examination of some 155 stomachs of these birds, collected from Florida to the Saskatchewan, and from the Atlantic to the Pacific, it has been possible to very accurately determine their value. But a distinction must first be made between the two species inhabiting the United States.

NORTHERN SHRIKE, OR BUTCHER-BIRD

The form commonly found in the northern states during the winter months is not a native, but breeds in Labrador and Alaska, and is hence known as the northern shrike, or "butcher-bird," both names being indicated by its scientific appellation, *Lanius (butcher) borealis* (of the north).

The food of both the northern shrike and southern form, or loggerhead shrike, is entirely animal matter, though differing somewhat as regards composition. One of the best services these birds do the farmer is in the destruction of large numbers of meadow-mice. These were found in one third of the stomachs, and formed one fourth of all

the food consumed, being eaten mostly in March.

The butcher-bird has a decided liking for English sparrows, about one half the birds which could be determined from the stomachs' contents being of that species, which certainly must be regarded as a general nuisance. In fact, after his extensive observations upon the enemies of the English sparrow, Prof. W. B. Barrows reported that "probably the most useful bird in this respect is the northern shrike, which visits most of our northern cities in winter, and feeds freely upon the sparrows."

But even more important than the above two items is that the large amount of the butcher-bird's food is composed of grasshoppers and other injurious insects. Thus, during October and November fully one half of the food is composed of grasshoppers, and they form one fourth of it during the whole year. Besides them, many injurious caterpillars, beetles, etc., are also eaten, mice (twenty-five per cent), English sparrows and noxious insects (twenty-five per cent) and grasshoppers (twenty-five per cent) forming the bulk of the food; the remaining one fourth is composed mostly of seed-eating birds of little economic value, together with insectivorous birds and beneficial insects.

THE LOGGERHEAD SHRIKE

Naturally, the loggerhead shrike, living in a warmer climate, is not so powerful a bird as his northern brother, and having an abundance of food, much more often leaves much of it untouched sticking around on thorns and barbs. Its food is also much more varied—snakes, toads, lizards, fish, snails and crawfish being sometimes eaten.

Though hardly so many mice are eaten throughout the year (sixteen per cent) as by the butcher-bird, they form over one half of the loggerhead's food during the winter. Fewer birds are eaten by this species, especially in summer, when insects are numerous. Grasshoppers also form a large part of its diet, being found in three fourths of the eighty-eight stomachs examined, and forming all the food in fourteen of these.



NORTHERN SHRIKE, OR BUTCHER-BIRD

In fact, about forty per cent of the total food taken during the year consists of grasshoppers. Twenty-three per cent of the year's food is composed of other injurious insects, among which are numerous canker-worms and cutworms. Beneficial insects, principally the predaceous black ground-beetles, make up ten per cent of the food, and the remaining eight per cent is birds, mostly seed-eating species.

The essential difference between the two birds, due to the region inhabited, is the larger number of grasshoppers and fewer mice eaten by the loggerhead. Both of these shrikes must therefore be included among the increasing number of the farmers' feathered friends, and should be protected and encouraged to breed in every way possible.

E. DWIGHT SANDERSON.

GOOD MILKERS PROFITABLE

High-grade cows are not plentiful, and prices for such stock are high. Young milk-cows that will yield from thirty-five to fifty pounds of milk a day are worth as many dollars. Farmers and breeders have recognized the demand for fine stock of this class, and during the past year many excellent animals have been selected and kept for raising. Much, of course, depends upon this selection: the cows for both milk and butter are greatly improved by careful selection and feeding. The feeding is important. If an animal is stinted and starved and chilled during a period of its growth it will never fully regain what it has lost, no matter what good treatment it subsequently receives. Successful breeders recognize this fully, and provide warm, comfortable quarters for the winter, and are particularly careful to keep

their young stock vigorous, healthy and growing through all the trying portions of the year. This midway treatment before stock begins to produce is often as important a matter as selection. Pure breeds are not, of course, necessary to success. It is not possible for every farmer to have pure breeds or anything like pure. He may be a number of years breeding up his herd to a satisfactory standard. Good milking-cows of every breed, and of no particular breed, possess certain qualities in common which guide the farmer in the selection of dairy stock. They have generally neat, well-balanced heads, light fore and heavy hind quarters, mild, gentle eyes, sloping shoulders, large udders, good-sized teats, with well-developed milk-veins, and mellow skin and soft, glossy coat. The milk of young cows is generally richer than that of old ones. The most profitable age of the milker is supposed to be from four to nine years. Yet for many years after that cows may be splendid milkers and highly profitable, but their milk becomes relatively somewhat poorer, and the animals eat more, especially during the winter. As animals grow older, having once become lean, they are more difficult to fatten.

GUY E. MITCHELL.

POTATOES AND MELONS PLANTED TOGETHER

For several years I have practised a method of combined potato and melon culture that has proved very economical and satisfactory. The potatoes are planted in drills in the usual way, except that they are covered very lightly. As soon as they begin to peep through the ground I put on a heavy coating of mulch. This has been of different materials. Straw, damaged prairie hay, marsh hay, fine leaves and coarse manure are all very good. The manure will cause a larger growth than any of the others because it contains more fertility.

By the time the potato-sprouts come through the mulch so the rows may be seen, if the weather is warm, I make the melon-hills. In every other row, about twelve feet apart and alternately, so the hills will not come in squares opposite each other, I raise the mulch, dig out two potato-plants, make the hills, and plant the watermelon and cantaloup seeds. When it is time to begin digging the potatoes for family use early in the season I take them out next to the melon-hills and finally dig all before the melon-vines need the whole space.

The mulching keeps the soil moist and cool, and no cultivation is needed for the potatoes or melons. Better crops of both I have never seen. The mulching is just the thing for the tendrils of the melon-vines to catch hold of and prevent the wind from disturbing their growth. For a small patch of early potatoes and melons enough for family use I know of no way to grow them so easily and so surely. I have tried cultivation instead of mulching, but it is much more work and the crops have not been so large.

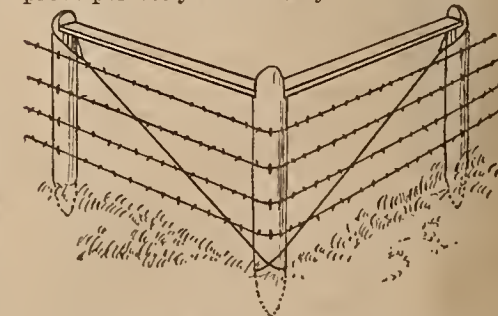
A very good plan for field culture of melons is to sow a bushel of cow-peas to the acre just before the last cultivation, working them in and allowing them to grow without further attention. They do not detract from the melon crop, but afford convenient shade for it, and enrich the ground wonderfully, besides making a pasture for hogs, sheep or cattle that would furnish very cheap and most excellent feed. I hope many will try both of these plans the coming season.

H. E. VAN DEMAN.

BRACING WIRE-FENCE CORNERS

There are many ways of securing the corners of wire fences. Weighting, anchoring, bracing, guying, etc., are used.

It is neither difficult nor expensive to put in corners for a wire fence (whether barbed, woven or plain) that will not only stay, but prove perfectly satisfactory.



Select a large, straight, sound post for the corner, "planting" it at least thirty inches deep. Then six or eight feet from this, and along each line of the fence, set an ordinary post, and between the tops of each of these and the top of the corner post fix a piece of 2x4 scantling, spiking it securely with wire nails. Then extend a guy-wire from the top of each of these brace-posts to the bottom of the corner one, making it double at each end so it may be twisted tight.

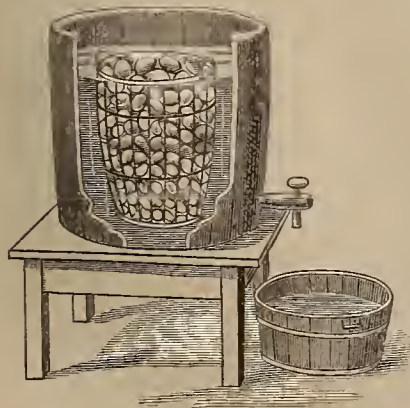
FRED O. SIBLEY.

NOTES FROM GARDEN AND FIELD

GROWING SCAB-FREE POTATOES.—My friend F. M., of Greenwood county, Kansas, who complains that his potatoes grow so scabby every year, is no worse off than a good many other potato-growers all over the country. I usually have more or less scab on my early potatoes, and the reason for this is probably that the ground selected for them is rich garden soil that has been treated very liberally with stable manures, and therefore is not only liable to be infected either from previous crops or from scabby potatoes fed to stock, but also liable to show an alkaline reaction, and therefore to be in the right condition to feed and spread the scab-fungus. The latter lives and breeds in the stable manure in the soil. I have never seen a case of potatoes growing scabby in soil that had an acid reaction. If you plant potatoes on sour muck or any soil that would turn a strip of blue litmus-paper when brought in close contact with it to a red or pinkish color you are pretty sure to have the tubers come out smooth and clean, although you may not get them as big as if you planted them in an alkaline soil. In short, acid seems to be death, and alkali a nurse for the scab-fungus.

The first thing, then, in growing potatoes, if we want them scab-free, is to avoid a soil having an excess of alkali, and unless the soil is decidedly sour, also heavy dressings of alkaline fertilizers. Heavy applications of lime, wood ashes, muriate of potash, etc., help to make potatoes scabby, and on soil on which I had applied rather excessive doses of wood ashes, and in other cases of muriate of potash, I have had the potatoes so entirely eaten up with scab that one could not have found a clean spot as big as a silver quarter on most of the tubers. My friend, who thinks that he might kill the scab infection on the seed-potatoes by putting a handful of air-slaked lime on each seed-piece at planting, is surely off the right track. If we plant on a sour soil it will perhaps not be absolutely necessary to subject the seed to any disinfecting treatment. Yet this is a good and safe precaution in any case, and not to be omitted when we plant early potatoes on our ordinary rich garden soils. Soaking the seed-tubers for ninety minutes in a corrosive sublimate solution (two ounces in fifteen gallons of water) is the plan recommended *ex cathedra* (officially). It is a safe and sure way of killing the infection, and there is no danger that the poison will injure the young potato buds or sprouts. But it should never be forgotten for a minute that the solution is a deadly poison when taken internally by man or beast, even in minutest quantity.

TREATMENT FOR SCAB.—To make the solution, first get a good-sized wooden tub, tank or wide barrel. Dissolve two ounces of corrosive sublimate (bichloride of mercury) in two gallons of boiling water; then add water enough to make fifteen gallons. If needed, make double this quantity. Stir until thoroughly dissolved. It is a good plan to have the tank, or whatever it is, stand upon a bench or other support high enough so you can put in a faucet for emptying the solution when done using into some other convenient receptacle. If you have a basket-maker living at no great distance from you (as I have) you can get him to make a plain, strong open basket of the shape as that shown in illustration, large enough to hold



about a bushel of potatoes. Or if such a basket is not at hand or cannot be procured, then you can take a coarse gunny-sack and fill it with potatoes. Whatever receptacle you have, immerse it with the potatoes into the tank or tub, and leave it in about ninety minutes. Then lift the basket or sack out of the liquid, empty the potatoes out to dry,

and fill with a new lot to go through the same performance. When the potatoes are dry, cut as wanted, and plant. Do not let any of the treated tubers lie around, as they are liable to poison any animal that would get hold of and eat them.

Probably there is still another and perhaps even simpler way of killing the scab infection on seed-potatoes, and that is by "greening" them; that is, by exposing them to the direct rays of the sun for awhile. The tubers should be laid in single layer, and turned several times in order to have the full light strike every portion of every tuber. As we usually "green" all our early seed-potatoes, and thus get them in best possible condition for making prompt and vigorous growth when planted, we can thus kill two birds with one stone. Where many potatoes are to be subjected to such treatment it is a good plan to put up a simple rack with shallow drawers or frames, leaving six inches or so of space between each filled frame for the circulation of air and light. On clear days these drawers or frames can be taken out and set on the ground for the scab infection to be destroyed by exposure to sunlight. At night, especially if it should turn cold, the frames can be replaced in the frame, and the whole covered if thought necessary.

POTATO-BLIGHT.—Referring to my statement that spraying with Bordeaux mixture had not proved wholly successful in any case under my observation, A. G. Chase, M.D., a reader in Kansas, writes as follows: "Last spring, when the tops of my potatoes were about a foot high, I noticed the blight just starting in my vines. On some hills only a single leaf was affected, in others the disease had already spread over a whole branch. I filled my watering-can (holding two and one half gallons) nearly full of water, and added two tablespoonfuls of spirits turpentine, two of solution of carbolic acid, two of coal-oil and one ounce of copper sulphate. This mixture I sprinkled over a portion of the hills, marking each hill thus treated with a stick. One spraying stopped the blight at once. A month later, when the crop was nearly made, it started anew, but the crop was so near maturity that this second attack had very little influence upon the yield." This looks to me like rather heroic treatment, and how the oil and water can be made to mix to a homogenous solution is another question. But I do hope that after awhile we will find something that will surely prevent the spread of the early blight of the potato. I try to keep the vines free from insect attacks (potato-beetle and flea-beetle) in the first place, so as to prevent laceration of the foliage, by which the disease finds an easy means of entrance.

CELERY FOR HOME USE.—To grow all the celery that even a good-sized family may want seems to me a very easy matter, provided you have succeeded in growing or procuring good plants. The new beginner may buy his plants from a neighbor or plantsman near him, and I would advise buying good plants at a good price rather than take poor ones as a gift. By all means try the self-blanching kinds first, and get and set the plants early, say late in May or early in June. Wherever you happen to have a vacant row in the garden where the ground is or can be made very rich by spading in some old manure, and perhaps a dressing of hen manure, there you can set a row, or even a double row six or eight inches apart, of celery-plants. In this early season it will hardly ever be necessary to provide shade for the newly set plants. Just keep the ground around the plants loose and mellow all the time by frequent hoeing, and they will soon make a strong and healthy growth. Along in July, when the plants have grown a foot high, begin blanching by setting up boards against the row or double row from each side. If you have any old boards ten or twelve inches wide they can be used for this purpose, and six of them skilfully handled will blanch all the celery needed for a family during the entire season. Begin at one end of the row. In ten days or two weeks of good growing weather after the boards are put on the celery will be in fair shape for use. Take up the plants as they come, and when all are used from under the first two boards string these boards along and continue the blanching process until the other end of the row is reached. If the season is dry and hot I usually mulch the ground between the rows heavily with coarse manure or litter, and also give to the ground an occasional thorough soaking.

Celery needs plenty of food and drink. The best variety of self-blanching celeries for the general uses of the home-grower I believe is Golden Self-blanching, although White Plume is perhaps more easily and more largely grown. I have never had anything finer in quantity, however, than Large-ribbed Red, introduced about three years ago. For a late variety I still grow Giant Pascall. Seed of this may still be sown in open ground even at the extreme North, and make good plants for setting in the garden in some spot cleared from early peas, early potatoes, early cabbage or other early crops. For this late crop I prefer blanching by earthing up or in winter storage. On the whole, however, I can see no reason why the celery-lover who has a bit of good ground should not have celery on his table from his own garden, and all he may want, during at least eight or nine months of the year.

T. GREINER.

2

SAVING SPLIT TREES

In the issue of FARM AND FIRESIDE for December 1st Mr. G. E. Mitchell describes a method of saving trees that have been broken by wind, weight of fruit or by other means. This is a very satisfactory method in practice. The only suggestion that the writer has to offer upon it is applicable more particularly to trees in which the spread of the two severed parts is very wide, and where a bolt placed as shown by Mr. Mitchell would be too low to be effective. When the angle is wide it will be found best to use three pieces of iron rod, each provided with hooks or loops. Two pieces upon which the nuts and washers are to be placed are put through the limbs to be held up, and the third piece is used to connect them. Otherwise the plan is the same as proposed by Mr. Mitchell. The advantage of this plan is that no amount of swaying or twisting of the tree by the wind can break the combination of the three movable pieces. Sometimes the single piece, though it be of the same strength as the three, will break under such conditions. In this case the tree will be worse off than when first broken.

Another admirable method, especially with young trees, is the practise of twining a branch from each side of the crotch in a sort of two-ply braid and holding the opposite side of the tree in place by cords until these two limbs grow together, which they will do in a few years, thus forming a single bond of living wood between the two sides of the tree.

In selecting nursery trees for planting, and in training those already planted, the orchardist should be careful to avoid the Y crotch in the body of the tree. But where by some oversight it should occur, he should seek to establish a living union between the two arms of the Y by the method here described, since it continues to grow stronger as the trees grow older, and thus keeps pace with the bearing powers of the specimen. It is thus far better than the bolt method, since it is a preventive, whereas the other is a remedy. M. G. KAINS.

2

SPRAYIN' DONE IT

BY M. G. KAINS

It kind o' riled a feller,
In the good ol' days agone.
To see them hugs an' beetles
A-chawin' at the dawn,
An' eatin' ou' 'nill sundaown,
'Ith voracious appetite,
Then a-settlin' down to bus'ness
An' a-chawin' the hull night.
But naow we sort o' gut 'em,
Sense we learned just haow to spray,
An' we soek the pizen to 'em
Where we us't 'nstead t' pray!
The hides o' suckin' 'nsects
To kerosene we treat.
An' we fix the hitin' critters
With stuff they gut to eat.
An' naow the orchard's boomin'—
It's maturin' all its fruit;
Our debts—we ain't got any—
An' we've a hank account t' boot.

2

INQUIRIES ANSWERED

BY SAMUEL B. GREEN

Rust and Leaf-curl.—F. M. F., Andover, Mass. The rust on the blackberries would not cause curl-leaf of the raspberries, but it is due either to the presence of leaf-lice or red-spider or is the disease commonly known by that name. In either case I think I should try to start a new bed in another place, to take the place of the one now failing. I should plant Loudon rather than Cutbert, as I think it more productive and healthy, and of fully as good quality.

Raising Catalpa Seedlings.—H. P., Deerfield, Ind. The seed of catalpa can be bought from most of the larger seedsmen and nurserymen. It is saved by gathering the pods during

autumn or winter. The pods are then pounded, and the seed, which is very light, is easily blown from the pods, which are heavier. The seed should be planted in loose, good soil early in the spring, in rows about three feet apart, sowing about twenty seeds to the foot of row. They will grow about two feet high the first year, and should be transplanted the next season to where they are to grow, if they are to be set out for timber.

Copper Solutions for Spraying.—J. B. H., Willow Grove, N. J. Copper solutions are not of much value in protecting against insects, and their chief use is against diseases. The vine or fire worm feeds on the foliage. Its eggs are laid on the under side of the leaves in the fall, but do not hatch until the following spring, when the worms appear. These mature and appear as motbs in June, and lay eggs that soon hatch; the larvae feed during summer, and mature into moths in autumn, which lay the eggs that hatch the following spring. It will be seen that it is two-hooded. Remedies.—Perhaps the best treatment is to flood the bog soon after the eggs hatch in the spring, thus drowning the worms. Some growers prefer to spray the vines with tobacco-water. Paris green and water, at the rate of 150 gallons to a pound of Paris green, to which has been added one pound of quicklime, has been effectual in many cases. The vines are very sensitive to arsenites, and it is necessary to add the lime to prevent injury from acid in the Paris green.

Manuring Good Soil for Fruit-trees.—J. S. G., McSouth, Kan. I think that such land as you describe ought to produce sufficient growth without manure. On good soil it may often be a mistake to apply much manure. The best way to determine whether the land needs manure is by noting the growth of the trees. If they are making a good, vigorous growth do not apply any; but if the growth is weak, manure is needed. Generally throughout this whole country more orchards are suffering for thorough cultivation than for manure, but most of our orchard trees are benefited by liberal feeding after they commence to bear heavy crops. Wood ashes is an excellent fertilizer for trees, if it is unleached, and that from hard wood is much superior to that from soft wood. It has a tendency to encourage early maturity of the wood and fruitfulness, while stable manure has rather more of a tendency to encourage a strong growth of wood. On this account stable manure is the more desirable when trees are overbearing and not making sufficient growth of wood. Wood ashes should never be mixed with stable manure, as it causes a waste of the nitrogen in the form of ammonia, but these should be applied separately. It is better to manure trees frequently rather than apply very large quantities at one time.

Best Drought-resisting Strawberries.—M. M. Sinclair. I think you will find that of all the strawberries now grown there are none more likely to withstand the severe drought of your section than the Crescent fertilized with Beder Wood. But in order to get the best results water should be supplied during the time the fruit is ripening, if the weather is extremely dry, and thorough cultivation should be given all summer, so that the soil between the rows will be kept loose and light at all times. In winter the beds should be mulched with straw or hay at least six inches deep to prevent injury from winter drought, which in your section often causes serious loss, especially when there is little snow. This should be removed from directly over the plants as soon as they start in the spring, and the plants allowed to come up through it. It will prove quite an aid in protecting from drought while the crop is ripening, and if you have to water, it will prevent haking of the land. In many parts of Nebraska the strawberries fail to fruit because the flowers are frozen. If a heavy mulch is used it may be drawn over the plants from between the rows on nights when frost is expected. Where so much straw is used it is an advantage to have the rows as much as six feet apart, as then plenty of room is provided for the straw. I know of a very severe section near the Dakota line where this method is successfully employed in raising strawberries.

Pruning Black Raspberries—Pears and Plums Dropping.—A. R., Queen, Pa. Your question refers to the blackcap raspberry. This kind should have severe pruning each year in order to get large fruit. When left to itself it is too prolific, and sets more fruit than it can mature well. In a general way, about two thirds of the side branches should be cut off, and the main shoot shortened about one third.—I think it most likely that your pears and plums fall owing to their being injured by insects. I think you would save your pears by spraying as soon as the blossoms fall and while the fruit is still upright with Paris green in water at the rate of one pound to 150 gallons of water. The egg of the codling-moth which does this injury is laid about this time, and the Paris green poisons the worm as soon as it hatches. The plums fall owing to the attacks of the curculio, which in its mature form is a small, dark-colored snout-beetle which lays its eggs in the plums. The remedy in this case is jarring the trees. To do this, sheets are spread on the ground under the trees as soon as the flowers fall, when a slight jarring of the tree will cause the beetles to fall, and they may then be gathered and destroyed. This work should be done early in the morning, since when the day gets warm the beetles do not drop readily when jarred. The jarring should be done so long as the beetles can be gathered, which will probably be for three or four weeks. It is a very simple remedy and by far the best treatment for this insect. Paris green is very liable to injure plum-trees.

The Virtues of a Good Cream Separator

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Stillwater, Pa., 1898.

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HARVEY R. ASH.

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FROM FARM TO CITY, AND RETURN

FOR a long time I have observed a tendency on the part of many young and middle-aged men, mainly the latter, to return to farm life, in the majority of cases, where it was possible, to the home farm which they had left in disgust many years before. In order to verify my impressions as far as possible I wrote acquaintances in many sections asking for letters of introduction to any men they might know in town or city life who intend to return to the work of the farm for a livelihood in the near future. Armed with these assumed rights to interview the men I wanted to reach I talked with several, and wrote those, not within easy reach. The following were the main questions sent to or asked of each man:

1. If, as I am informed, you are about giving up your city avocation, and are returning to farming operations, will you kindly give me your reasons for making this change?
2. If you will pardon the seeming impertinence of the question, I would be pleased to know why you left the farm. If you had more than one reason for so doing, what was the one that finally led you to the decision?
3. Do you feel yourself as well fitted, leaving the question of age aside, to take up farm life now as when you left the farm?

The replies to these questions were, I confess, somewhat surprising to me, but I am forcibly impressed with the soundness of the logic expressed in all of them. Thirty-eight replies were received, and the answer to the first question was virtually the same in thirty-seven cases, and in substance was that after a thorough trial of both farm and city or town life they were convinced that they were best fitted for the farm, and on it could at least obtain as good a living as now, and "with less hard work." The general complaint seemed to be that they had no especial talent for any particular line of commercial work, and in the majority of cases held clerical positions at small salaries—barely sufficient to live on—and in some cases where they had married and had a family of little ones the living was very meager. In each of the thirty-seven cases the writers frankly acknowledged that city life had for them proved a delusion, and that they were fitted neither by education nor inherent abilities to continue in it with hope of any more than a bare existence. In some cases my correspondents were men on the shady side of middle life, and though robust and strong, were looking forward to coming old age with dread.

The replies to my second query formed to me the astonishing part of the correspondence. In eight cases the replies indicated that a combination of circumstances, no one now plainly remembered, were at the bottom of the change from farm to city life. Three of my correspondents declined to answer the question because of the extreme personal reasons which caused them to leave the farm. Two ignored the question entirely. The remaining twenty-five had a variety of reasons each, but all included the one reason which I give here as nearly as possible in the language of one of the writers, because while he puts it harshly, perhaps, it is certainly very forcible. He says:

"I left the farm because from my earliest recollection both father and mother were constantly talking 'hard times,' lack of ready money, and generally a despondent growl against farm life and all connected with it. As a boy and young man I was ambitious, and it did not take me long to resolve that if farm life was what I saw about me daily I wanted none of it. When I reached twenty-one I made for the city, and have been here ever since. I now see my mistake, and am going back to the worn-out home farm, after twenty years of city life, to begin over again. I know I will have a hard row to hoe, but feel that my family and myself will have more of the comforts of life than any of us have had in the city, and with less hard work, taking the year through."

The reader will bear in mind that the above is in substance the main reason given by twenty-five out of thirty-eight men for leaving the farm, and furnishes us with a moral that needs no elucidation.

In answer to the third question all of my correspondents hopefully write of the coming return to farm life. All are fully awake to the seriousness of the struggle before them, but feel that it cannot be worse than what they are leaving. In this they are competent judges, being experienced in both. In all cases they say they have kept more or less in touch with farm life and practice in various ways, and in some cases feel that, theoretically at least, they are better able to take up farm life than they were to continue it at the period they left the farm.

I cannot but feel that this tendency to return to farm life augurs well for the future of farming, and of our people generally. No one can tell how general this feeling may be, but it cannot be a passing spasm or limited to a comparative few, for I had little difficulty in finding thirty-eight people who had the idea of returning to farm life firmly fixed in mind. Surely these men who have had practical experience in both farm and town life are well fitted to again grapple with the perplexities of farming operations, and with a prospect of a fair measure of success. Their early farm experiences will prevent the most serious mistakes, and the contact with the quick wits and business principles of town life will serve them in good stead, enabling them to run the farm on business principles, wherein they will be a tower of strength, for it is conceded that the most vulnerable spot in the armor of the average farmer is his lack of business ideas.

This return to farm life of my thirty-eight correspondents will leave as many town positions to be filled, it is fair to presume, by town born and bred men, fitted by education and environment to fill them with satisfaction to themselves and their employers. A little of the congestion of town or city life will thus be relieved; an infinitesimal quantity to be sure, but it may be the point of the entering wedge which will widen as time goes on.

The sad part of this correspondence to me has been that feeling expressed against the "everlasting complaints" on the home farm. It was expressed both delicately and bluntly, but its intensesness was most apparent to a reader between the lines. Our boys and girls hear and remember more than we dream of, and it is beyond human ken to calculate how many times the attitude of parents, opens the path to the future of the child for weal or woe. We all agree that farm life is hard and often unprofitable, and are often grieved that our children seem so little in harmony with their surroundings, yet we see the breach widen day by day, bringing nearer the time of separation between the boy and the home farm, and do nothing to stop it. Can we expect our sons to take kindly to a vocation which we constantly speak of in their hearing as slavish and impoverishing? GEO. R. KNAPP.

NOTES FROM CORRESPONDENCE

FROM CALIFORNIA.—Nicolaus is about twenty-eight miles west of Sacramento. It has both railroad and steamer transportation. This is a natural dairy country. It produces immense crops of alfalfa without irrigation, also corn, wheat and barley. There are good markets for butter, eggs, honey, etc. Land can be bought for from \$30 to \$150 an acre, according to size of tract, location and improvements. I will tell what was raised and sold from a farm of forty-two acres here for the year ending December 31, 1898: Chickens and eggs, \$83.30; cattle and hogs, \$790.45; butter, \$286.50; hay, \$781.00; honey from nine colonies, \$83.10; for pasture, \$27.35; total received, \$2,057.10. G. T. J.

Nicolaus, Sutter county, Cal.

FROM NEW MEXICO.—Beulah is at an altitude of seven thousand five hundred feet, and on the eastern slope of the Rocky mountains, thirty or forty mile from the antiquated city of Santa Fe. It is located in the Pecos national timber reserve, and is headquarters for the ranger whose business is to look after the timber and keep off intruders. There are several hundred thousand acres, ranging in altitude from six to fourteen thousand feet, which give a variety of climate. The higher mountain ranges and peaks have perpetual snow, while the coves and valleys are cozy both winter and summer, the mercury rarely going lower than zero in winter or higher than eighty in summer, and as the atmosphere is light and pure we never have a bitter cold or an oppressively hot day. For healthfulness this region cannot be excelled. Consumptives are relieved, and in many instances cured. Asthmatics find a never-failing remedy. A residence here expands the chest from one to three inches. Many hundreds come here every year for bath, health and pleasure. Our mountain streams abound with the "speckled beauties," and afford great sport for the angler, while the Nimrods may find enjoyment among the hills in pursuit of game, ranging from bruin down to rabbit and grouse. The ranchmen located within the reserve till the narrow valleys, which are very fertile, growing enormous crops of hay and small grain. The oats which took the premium at the World's Fair were grown in a valley less than sixty yards in width. Root-crops, such as potatoes, beets, carrots and turnips, grow to perfection, and find ready sale at the larger towns on the plains. Our population is largely Mexican, and have very quaint ideas and ways. They do not seem to take very readily with our ways of thinking and doing. Their houses are great curiosities to the new-comer. They are usually made of sun-dried bricks. With the poor class (and most all are poor) the bedding and furniture consists of a few goat or sheep skins spread flat upon a dirt floor for chairs in the day and beds at night. Children, cats and dogs, with a few "burros," make up most of their live stock. S. T. B.

Beulah, N. M.

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PRINCE AND BEGGAR

Body, how hast thou fared to-day?
 "I have had the best that the world can give;
 With my costly feasting and rich array,
 Where is the prince who could better live?"

And what has it been with thee, O soul?
 "I have lived on a crust or two of prayer,
 And had not a vestment that was whole;
 Ah! how much worse could a beggar fare?"

—Charlotte Fiske Bates, in Sunday School Times.

default to duty, to turn to the loves of home for enjoyment—this is what Sunday makes possible to man; and if we do not trample the privilege under our careless feet, it brings the joy of the satisfied natural craving of man's nature, and builds up the worn tissues of body and mind, and keeps the heart's rhythm true with the life-giving nutriment of love.

EXAGGERATED DANGERS

Coming dangers sometimes fail to arrive. Evils of life have a trick of looming very large when we are among them, and threatening all sorts of terrible consequences which are never realized in fact. Even sensible men have had their minds highly excited by premonitions of impending calamities, at which we now smile. The otherwise delightful correspondence of Robert Southey, for instance, is mixed with predictions of the ruin of his country and its liberties through the uprising of the mob, and the necessity of establishing a military despotism to defend life and property. More than once he assigns the period of fifty years as the utmost that the British constitution can last, and indulges in lugubrious details of the manner of its impending overthrow. Yet the system of British liberty continues to exist, along with an extension of political power to the mass of the people, such as he would have thought suicidal. Nor is Southey an isolated instance of this doleful sort of prophecy. We have had scores of such prophets in America, and the breed is not extinct. Yet the world declines to go to pieces by way of verifying their gloomy anticipations, and good people continue to suffer terrible things from evils that never happen. Sufficient to the day is its own evil, without our borrowing evil from the times to come.—Religious Telescope.

OUR LIFE-MELODY

"There is no music in a rest, but there is the making of music in it." In our whole life-melody the music is broken off here and there by "rests," and we foolishly think we have come to the end of the time. God sends a time of forced leisure—sickness, disappointed plans, frustrated efforts—and makes a sudden pause in the choral hymn of our lives, and we lament that our voices must be silent, and our part missing in the music which ever goes up to the ear of the Creator. How does the musician read the rest? See him beat the time with unvarying count and catch up the next note true and steady, as if no breaking-place had come in between. Not without design does God write the music of our lives. Be it ours to learn the time, and not be dismayed at the "rests." They are not to be slurred over, nor to be omitted, nor to destroy the melody, nor to change the key-note. If we look up God himself will beat the time for us. With the eye on him, we shall strike the next note full and clear. If we say sadly to ourselves, "There is no music in a rest," let us not forget "there is the making of music in it." The making of music is often a slow and painful process in life. How patiently God works to teach us! How long he waits for us to learn the lesson!—John Ruskin.

COMPARE THE NATIONS

The kingdoms of the world in these days prosper or pine as they honor or despise God's word. Show me a land where the Bible is degraded and interdicted, and I will show you a land whose history is written in blood and tears; show me a land where the Bible is valued and spread, and I will show you a country prosperous and free. Number the nations over one by one, and see where property is valuable and life secure; mark the places where you would like to invest your means and educate your family; you will shun some of the sunniest climes of earth as if they lay under a polar night, because the light of the truth has been taken from their sky. Traverse the world in search of merely human good, seeking but an earthly home, and your tent, like Abraham's, will certainly be pitched at "the place of the altar." The map of the world is sufficient evidence that God is and that he has revealed his will to men.—Dr. Wm. Arnot.

THE HUSBAND'S SUNDAY AT HOME

This eloquent plea in behalf of Sunday as a blessed time for the cultivation of family acquaintance and home affections is made in the columns of the New York "Post:"

A man to whom wife and child were especially dear, and whose home prefigured to him the rest eternal which we call "the fair garden of paradise," used to call the last evening of the week "St. Saturday night." It was sweet enough to deserve canonization in his mind.

Earnestly as I believe hospitality to be a greater promoter of happiness to the host than even to his guest, since we all know how much "more blessed it is to give than to receive," yet I deprecate the now universal custom of making Sunday a special day of invitation. Of course, the leisure of the guest weighs as much in the scale as that of the host, but every Sunday given to a household of visitors robs a man and his wife of very precious opportunity of enjoying each other, and of calmly discussing their "plans of campaign."

Nothing lives without nutriment; no large wholesale growth is possible under conditions of starvation, and in the homes of four fifths of ordinary American families the man and his wife, who govern them, cling together by force of loyalty and adherent affection, without opportunity to explain themselves, and their developing natures cannot make themselves known. The love born of mutual charm in young, untried hearts ought surely to be like the expansion and development of a noble tree, as time brings its wonderful experiences and its tremendous knowledge of things finite and infinite. Can this process go on when the morning cries, "Speak quickly; I have not a moment to spare," and the evening says, "I am so tired; do let me be at rest?"

When that day dawns which has no call to work, and belongs solely to the heart, surely it is more precious than an oasis in a desert, more capable of recuperating and building up the heart's weariness into vigor and strength than anything else the world affords.

To the children of a loving father the day "father stays at home" is like a weekly festival. The walk or drive with him, the confidences he has leisure to receive, the counsel he is asked to give, the chance to sit upon his knee—these are all inexpressibly delightful. His decision as to the expenditure of pocket-money, as to whether a boy could "get the most fun" out of a postage-album or a toy engine, his advice as to whether it would be better to conciliate Bobby Jones or knock him down, and if the lad is happily a country boy, his opinion on the last litter of rabbits or the lameness of the goat, are each and every one a new bond, a new ground of intimacy, a new leaf in that book of memories which shall one day seem to the child the only unspotted thing he owns.

Said a man, in hearty good faith, to a husband and wife who chanced to be dependent on each other's companionship, without other family: "Suppose we arrange for our two families to dine together; it is so stupid for two people to sit down to table with no one else to talk to." The absorbed young couple whom he addressed felt as if an army of invasion threatened them, and had to cudgel their brains to refuse the proposal, without intimating that they profoundly pitied him in his married life. Exceedingly liberal in his gifts, very admiring of his wife's good looks and good management, he was a fair specimen of an average husband; but, like most business partnerships, marriage had sufficed only to meet the material side of his nature, and he could not fancy that his friend found his "solitude a deux" eminently delightful and wholly satisfying. To cease from labor without sense of

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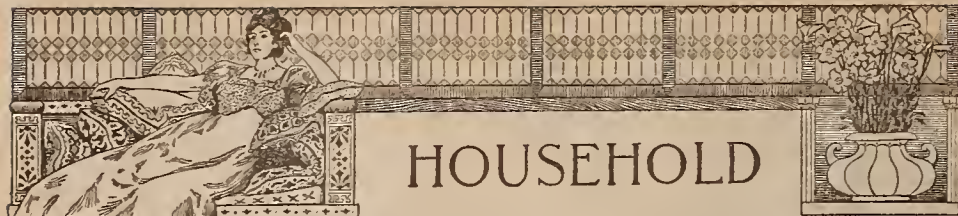
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HOUSEHOLD

LABOR WILLINGLY DONE

HOME and household duties performed with willingness and by deft hands, made more so by cheerful-hearted planning, are soon divested of the more prosaic characteristics, and become a pleasure rather than a burden.

There can be no happier labor than that of home building and keeping, and nothing more prolific of "the greatest good to the greatest number." It is a work, indeed, "for country, home and native land," and the possibilities of our housewives and mothers from their high pedestals of reign within the blessed precincts of homes are as boundless as the ocean.

And yet how often we find them chafing under the environments of home demands and needs, longing for the imaginative "broader fields" of work that, presumably, they are not one half so well fitted to occupy and grace as that of the queen of home hearts and the home throne.

A pathetic incident that has doubtless been many times repeated, and perhaps shall be repeated again and again, through a mistaken sense of greatness and a longing for renown, is that told of the once happy household that lies now a ruined wreck because of the losing sight of the home and husband and family, under the din of applause showered upon a pretty, attractive woman who possessed a fascination that carried an audience with her into ecstasies upon the temperance question.

A great theme for a woman to become enthused upon, I admit. And especially as her home had once been the every-day abode of poverty, and all through the downfall of her husband through the curse of an appetite for liquor. Through the much-talked-of blessings of a now well-known cure he had recovered and become a man again, and had prospered, given to his family a lovely home again, and was proud of not only his family, but of his cure. In an hour of excitement his talented wife had been persuaded to mount the rostrum, for the purpose of encouraging the numbers in the audience who were in need of such

thenceforth he was never heard of by family or friends. The home had been wrecked once more, and this time past all hopes of remedy. A broken-hearted woman awoke to an understanding when too late, of the duties and, as said, the possibilities of woman in her home. She would have given all the world to recall the husband, and counted herself blest could she have devoted the remainder of her life to making home attractive and beautiful, to preparing dainty foods, washing pretty dishes and setting a pretty table, and in doing the countless things that go so far, small as they are in themselves individually, toward making the home life one perfect whole.

"The hand that rocks the cradle," you know, is in reality the hand that sways or rules the world. Women may vote and talk and grow right along with the world in its progressiveness and yet be left the true home-makers of the nation as well. But when, with families about them, they find no pleasure in the homely duties of house-keeping and the beautiful joys of home-keeping, there is somewhere something radically wrong.

Even the so-called "homely" duties among the many things that must be done, if the comfort of home and its beauty is to be maintained, may be "glorified" and made not unpleasant in the least if done willingly.

It is not uncommon to find the prettiest dishes of china and silver kept for use only upon "state occasions." It is just as noticeable that the "best room" and the best of everything is kept for "the sometime guest." It is verily true that home folks are frequently neglected, every duty counted a burden, and that there is "a beating against the (imagined) bars" by housewives and mothers. While did the whole world sing from the very heart, "there is no place like home," and live the sentiment therein expressed, "what, then, a world this might be."

Indorsing fully the position and places of honor and fame that women have marked out for themselves, and are so gracefully filling and presiding over, we would at the



encouragement to accept the cure also, and to tell her own and her husband's experiences with poverty, liquor and eventual redemption from it all, and a following of prosperity.

This was wise and well of itself. But carried on and on by applause and praise, it is told that her husband, though for a reasonable length of time willing to pose as one of those reformed drunkards, became wearied of it in the course of human events, and at last he fell again from contact with old-time friends who were pleasant and entertaining, and from feeling himself neglected and comparatively uncared for at home. He had said that should he ever fall again he should go where he would never be heard from again. He was missing one day, and

same time encourage a more general interest in those duties that confine our home-makers so closely at home so many times. Doing cheerfully and willingly whatsoever the hand finds to do divests the prosy rounds of its prosiness, and the sun shines in, lighting the kitchen corners and the commonplace items of labor, and lightening the footsteps of those of us in our daily rounds of making homes homely.

ELLA HOUGHTON.

LIME STAINS

On windows, woodwork, etc., can be easily removed by washing with water to which has been added a few drops of strong hydrochloric acid or a few tablespoonfuls of vinegar.

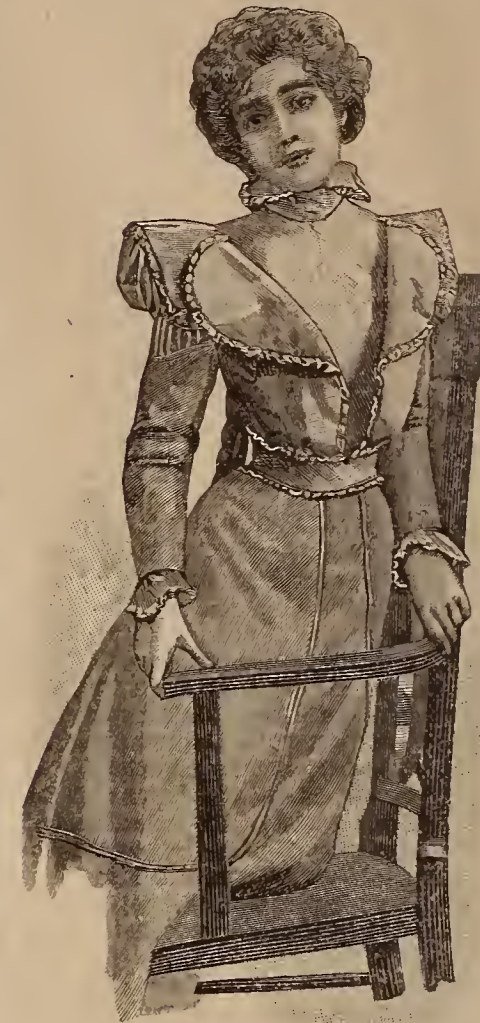
J. C. B.

KEEPING UP ONE'S WARDROBE

Although Mother Eve has had continual fault found with her curiosity and its direful results, I forgive her for the ills because with much trouble she also bequeathed us much pleasure. Our clothes give us as great enjoyment as any feature of life. To talk of the fashions, to admire them, to aim to adopt their beauties, give women the least harmful and even the brightest hours of existence. Thanks to a good practical mother, I was taught to sew, to cut and make dresses, and although the result has not been to make me "the very button on Fortune's cap," it has made it possible for me to look much richer than I am. You may call that a doubtful good. It is not best to gain the name of being extravagant, but when one has that name undeservedly one can laugh in her sleeve. Some persons may take honor to themselves by wearing old clothes; they may boast of the number of years certain garments endure, but we intelligent women of the present time have too thorough a horror of bacteria to be willing to carry about our persons the dust of ages. No; to be sweet and fair to see one must have new clothes often. It was this necessity which drove the writer to take up her needle. By the time one buys nice goods and hires a dressmaker a garment costs so much that a prudent woman feels she must make it last a long time. Most of us like change, and recognize its benign effect on our mental and even our moral nature. Well, then, energy must win our neat and various wardrobe. During summer one can be neat and dainty in a laundered shirt-waist and a skirt of linen or pique. I should make it a rule to wear in summer strictly summer clothes. It is a matter of economy as well as good taste. Of course, one must have garments suitable for rainy days, but have you never felt repugnance on a bright June day to a black wool suit which has covered its owner through all the gloomy seasons? The secret of becoming dress is propriety. The other day—it was October—one of my friends wore a blue serge skirt with a white pique shirt-waist. It made me shiver. But on second thought it was recognized as the very waist which seemed pretty and stylish in July. That was the logic of my shiver. What is pleasing in summer is unattractive after the autumn fires are lighted. Then the eye requires warm colors and woolen fabrics. If you make your own waists you can have as many as you wish at slight expense. If you make them with fitted lining always get a good quality, and when the outside is shabby or you are tired of it wash the lining. Iron it dry, and the hooks and eyes will not rust. For the same reason use real whale-bones and not steels. When you have the waist-lining fitted, and the hooks and eyes on, it is a mere joke to make a waist. I always keep a lot of collars cut out. Some leisure hour I take my buckram, or linen, and cut out a number of stock collars. Some persons think buckram too stiff and prefer a double layer of linen stitched backwards and forwards and crosswise with the sewing-machine. I use both kinds. When making a waist one is always tired and hurried when it comes to the finishing touches, and it is a great help to have a collar-lining ready to cover. Woolen or silk shirt-waists are not much trouble after one gets a suitable pattern. To be stylish, however, they must fit as neatly as any waist, with exquisite tidiness at throat and waist. If you are pretty you can stand the severity of white linen collar and narrow necktie. If you have passed the fresh period of youth a crush collar of ribbon is more becoming.

To be tidy and stylish in the way of skirts one must be equally industrious and judicious. A sick petticoat worn on the street soon becomes a nasty thing. In one particular I cannot follow fashion, and that is when she tells me to drag my dress over the dirty sidewalks. No, indeed! A demi-train with silken underskirts are fit only for clean parlors. Dainty white muslin skirts will continue to be regarded as the sweetest of their kind. But for walking a black petticoat is most appropriate during the inclement part of the year. When one illustrates her dress-skirt a little, it is not desirable to disclose a conspicuous white skirt. I have solved this difficulty for myself by making a skirt of black percaline, cutting it by my dress pattern, omitting the superfluous back widths, and trimming it with a ruffle of black silk. This is light in weight, cheap, and can be thrown away as soon as it is soiled. To keep one's dress-bindings in order requires eternal vigilance unless one is sufficiently independent to have short street dresses. Amateur dressmakers differ, but it is my experience that more art is required to make a stylish, graceful skirt than a waist. Therefore I hire my best dress-skirts made,

or buy them. When chatting about good methods of keeping one's self in nice clothes some persons propose rigid economy and penurious plans. They tell of wonderful success in coloring old cloth, of buying bargains, in short, pretend that something can be made of nothing. Such talk is untenable. Did you ever notice that when you attempt too stingy economy it often ends in unexpected expense, and even then brings no satisfaction? It is mere common sense to



say that if you wish to be well dressed you must spend a reasonable amount of money. The best managers do not expect to perform miracles. A woman does well when she looks as if she had bought her dry-goods with judgment. If she looks as if she spent more than is actually true, she has in dress the art which conceals art.

K. K.

SOME EXTRA TOUCHES

If you wish to improve your coffee, just before you take it from the range drop in a pinch of salt.

The next time you bake your beans add half a teaspoonful of mustard, and see how you like it.

In making soup of split peas, have you ever used salt pork, just a bit, and a small onion? Some epicures prefer it to the proverbial ham-bone, and it is easier to get.

In serving black-bean soup, rub the yolks of two hard-boiled eggs through a sieve, and sprinkle them thickly on top of the soup. The black and gold look very pretty.

On all white soups—milk, potato, turnip, clam or oyster—place, just before serving, on the top of the soup in each plate a tablespoonful of whipped cream. It gives great delicacy.

If you wish to make the staple corned-beef hash into a "dainty dish to set before a king," after you have chopped meat and potatoes together, and seasoned, do not fry it, but put it in a dish, and bake it. Just before putting it in the oven stir into it half a cupful of cream or hot milk and a bit of butter.

On cooking your wheatlet for breakfast, use milk, even skimmed milk, instead of water. Just before you dish it up beat it vigorously for a couple of moments. Its consistency becomes very light, almost foamy, and eaten with sugar and cream is easily digested and much fancied by invalids and children. If you use water, and have any left cold, it is nice for lunch cut in strips and fried, and eaten with maple syrup.

If you want the best maple syrup, don't get that which comes in bottles or cans. That has even less maple sugar in it than the law allows, and is principally compounded of glucose, sorghum refuse, etc. Get the lump-sugar (not the refined; that is adulterated, too), and melt it down yourself with a little water. The pure sugar is dark, very granular, and often has little sticks, etc., in it. In melting these rise to the top and may be easily skimmed off.

NANNIE MOORE.

UNFINISHED STILL

A baby's boot and a skein of wool,
Faded and soiled and soft;
Odd things, you say, and I doubt you're right,
Round a seaman's neck this stormy night.
Up in the yards aloft.

Most likely it's folly; but, mate, look here!
When first I went to sea,
A woman stood on yon far-off strand
With a wedding-ring on the small soft hand
Which clung close to me.

My wife—God bless her!—the day before
Sat she beside my foot;
And the sunlight kissed her yellow hair,
And the dainty fingers, deft and fair,
Knitted a baby's boot.

The voyage was over; I came ashore;
What think you I found there?
A grave the daisies had sprinkled white,
A cottage empty and dark at night,
And this beside the chair:

The little boot, 'twas unfinished still;
The tangled skein lay near;
But the knitter had gone away to rest,
With the babe asleep on her quiet breast,
Down in the churchyard drear.

—The Humbler Poets.

PERSONAL INFLUENCE OF DRESS

THE old trite saying that "the consciousness of being well dressed was equal to the comfort of religion" struck the key-note of truth. It surely must be inborn, and not an acquired sentiment. Its influence upon children is remarkable. I have seen the putting on of a pretty dress change an irritable, ugly-behaved little girl into an amiable, sweet-mannered one for the rest of the day. Good clothes are not always pleasant to look upon, but I believe they have a distinct moral influence on personality. You can injure a picture by placing it in a coarse and inartistic frame; you may spoil the effect of the gem by an imperfect setting.

No matter how high our aims and ambitions in life may be in other directions, nothing can excuse carelessness and neglect in the matter of personal appearance. We should try to hide Nature's disfigurements, and make ourselves as attractive as possible. We owe something to our friends as well as to ourselves. Genius is a good thing to have, but if it makes one abandon all thought of personal appearance, and assume a vandalism and perfect abandon of style or becomingness in attire, they had better have less genius, for no one can afford to ignore dress.

I had a little nephew come from the country to visit me in the city, and he soon became so enamored with play and his playmates that he grew averse to being washed so often, and it did seem to me that he got more black soot and dirt on his clothes than any of the other boys; but the worst feature was his getting as tough as his clothes looked rough. But my husband laughed, and said, "He will be all right when he gets in his good clothes." Sure enough, when Sunday came, and he had gotten his Saturday night bath, and knew he must be dressed, he assumed an entirely different role—the outward, civilized, good clothes made an inward change; and as long as I could keep him with me, and dressed neatly and clean, he was courteous, polite and not rough, but he seemed to think that rough, dirty clothes gave him the privilege of being a tough.

It is said "no man can be dignified in a pair of pantaloons too short for him." Many a child suffers from the jeers of play-fellows, or is deprived of freedom of action, because the mother decrees that unsuitable garments shall be worn. I call to mind the experience of a young boy cousin, sixteen years old, who wrote home to his father and mother to send him a new spring overcoat, as most of the boys were getting them. He was of a modest, shrinking nature, and they usually yielded to any request made by him; but they had given him a very handsome gray plaid shawl (which was all the style then) when he started to school in the fall, and as he would only have such a short time to wear it they thought best for him to do so. However, if he had in any way hinted that he didn't like the shawl they would have sent the new overcoat at once; but he was such a good son—he obeyed to the letter their wishes always. He said, laughingly, years afterward, that it took more nerve and moral courage to wear that shawl and be gayed about it by the boys than it did to face a cannon-ball in the army. His mother, in speaking about it after I was grown, said, "Rather than to have had John suffer, or to have felt mortified over having to wear it, I would have paid twenty times the price of a new overcoat."

The boy married, and made a brave soldier, a good husband and father, but he never

forgot his experience in having to wear that shawl after the boys had decided it was passe. And his sons and daughters know they have only to express a wish for anything to wear when away from home, and their father sees to it that they get it; "for," he said, "I never wish them to undergo what I did." So it is, we learn by experience.

The Author of us all testifies his delight in external decoration wherever he has created a fair object. He sets it forth with every graceful trapping that is in keeping with the character of the work, and a woman who has no taste for decoration is deficient—as much out of nature as a bird without wings. Clothes are the distinguishing badge of civilization, and they work from without. Missionaries recognize this among barbarous people—the reaction of clothes upon the intellect—and let them put on civilized clothes as soon as converted, it being a visible sign of the inward change.

When more than a century ago poor French peasants and artisans of both sexes were compelled to toil in rags and bitterness, their children were born in hatred and defiance.

In ancient Greece, where they are a nation of beauty-worshippers, and fostered in natural surroundings, we find painters and poets.

SARA H. HENTON.

A NOTE OF WARNING

When the trend of womanly progress becomes a menace to the home life of a people it is time that a note of warning be sounded. And many thoughtful persons now see, in the growing sentiment of restlessness and discontent among women everywhere, a danger-signal to the most sacred birthright of humanity, a peaceful and happy home.

The very air is full of the spirit of progress. The press and the pulpit ring with her advancement in new and hitherto untried fields of labor, and all her achievements are applauded to the echo.

If this were all, the harm would be small, but it has grown to be quite the fashion with a class of smart writers to speak slightly of household labor as a ceaseless round of drudgery, which, if not absolutely degrading, is, to say the least, a dull and commonplace existence from which a woman is most fortunate to escape.

And for this very reason there are women to-day in thousands of homes whose hearts are full of discontent at the restrictions of domestic life. They see the new woman forging ahead into all avenues of business and professional life, and their souls are consumed with the desire to break away from the environments of domestic life, and enter into what seems to them to be the higher privileges of a broader, more independent career.

We may safely leave the new woman to her own devices, she is perfectly able to look out for herself. It is those dear souls who, mistaken in the conception of the highest



privileges of womanhood, are martyrs to their own spirit of discontent who need words of counsel and encouragement, and no time should be lost in emphasizing to them the fact that it is no privilege, but a misfortune, for any woman to be compelled to go out into the world to earn a living for herself. And if wives and mothers, safe in the seclusion of their own homes, could only know the loneliness and the weariness of many a successful toiler in the broader fields, if they could know the unutterable longing for a home and fireside of their own, they would count themselves the most blessed among women.

The greatest right, and the highest privilege of womanhood is the right to a happy home and the love and companionship of husband and children, and a woman defrauded of the sweetness and joy of a true and harmonious home life is to be pitied.

And with all the helps to self-culture now within reach of every home-maker there is no need of our being either illiterate or narrow. Indeed, to maintain a true home requires as perfect a comprehension of the needs of humanity as has one who edits or speaks from the pulpit. It must now rest with every woman to decide for herself whether the emancipation of her sex from old-time customs and restrictions shall prove her nemesis of her evangel.

But a thorough comprehension of the influence of the home upon society, and the dignity and responsibility of the true home-maker, will serve to convince every woman that the privileges of those who only stand and serve within the limitations of four square walls may be as high as the heavens above us, and as broad as the universe. MRS. CLARKE-HARDY.

CHILDREN'S DRESSES

The styles for the coming season are very attractive both for old and young. A great effort is being made to make it a season of airy fabrics, and the shop windows are a bower of beauty draped in the thin white goods and beautiful stripes of colored ones. Everything is stripes first, other things after that if you prefer them. These lend themselves gracefully to the long, slender effect attempted in all the new costumes. The general effect of the dress is still in the waist, and can be as elaborate or as plain as you wish. Revers, trimmed yokes, and braid effects to outline a yoke, are all used. The touch of white at the neck always has a good effect against a youthful face.

Soft henriettas are much used for children's clothes, and are always preferred to any material of a wiry effect. Revers lined or faced with a color and finished on the edge with a tiny black ribbon are always effective. Dresses of wash-goods are made elaborate in the yokes and sleeves with lace and insertion.

BELLE KING.

MY TURKEY INCUBATOR

Last spring I decided to try a plan of which I had read; namely, setting turkeys on hens' eggs. The article mentioned stated that this plan was used extensively on poultry-farms in France, and that a turkey could be made to hatch successive broods by removing the chicks to a brooder as fast as hatched and replacing them with another sitting of eggs. In this way a turkey would sit continuously for three months or more. It was also stated that a hen-turkey could be made to sit at any time by fastening her on a nest for two or three days.

Wishing to get an early start, I applied to the man who had furnished me with turkeys at Thanksgiving and Christmas. "Yes," he said, "I have just one hen-turkey left. I will bring it to you." Weeks passed without his promise being fulfilled. In the meantime I had a box about four feet square put on the back porch, and inside of this a smaller box for a nest, leaving room in the large box for a feeding-place for the turkey while she was sitting. The larger box had a cover made partly of wire netting.

One day in February my turkey arrived. It was not very large, and seemed rather thin, but the man assured me it was "a very gentle turkey." That night I put my turkey on the nest, with three eggs under her, expecting to take these away as soon as she became broody, and put thirty in the nest. The turkey seemed a little stubborn about sitting down, but I "persuaded" her by bending her legs, holding her down, and putting a board over the nest and a stone on that. I was sure no turkey could ask for better accommodations, and visions of flocks of early broilers and a well-filled purse from their sale filled my mind, and I made plans to buy three or four more turkey-hens as soon as this one settled down to business.

As I had fed her well before putting her on the nest, I did not disturb her until the second day, and expected to find her ready for the thirty eggs. I did not need to take her off the nest, for as soon as I lifted the board she took herself off. I fed her well with corn, gave her water, and as she showed

no signs of going back to the nest, I put her back and fastened her as before. Every alternate day I fed her. She consumed quarts of corn, but still did not take kindly to the nest. She broke the few eggs I put under her, and dug a hole in the straw and dirt at one end of the nest-box, which I surmised was so she could stand upright. Every day some member of the family would say, "How does your turkey get along?" And I would reply, "I guess I can put the eggs under her to-morrow."



Days lengthened into weeks, and the last of March came before I could be persuaded to give up my experiment. When I finally took her out of the box and put her in the hen-yard she was a sorry-looking turkey; her tail-feathers were broken and twisted to one side, and her legs seemed so stiff she could hardly walk. After a week or two she began to look better, and seemed to enjoy her liberty. One day in April I heard a strange noise in the hen-yard, and going out on the porch I saw my hen-turkey strutting around, and heard an unmistakable "gobble, gobble." Soon thereafter we had a fat turkey roasted for dinner.

But alas! I have never heard the last of my experiment. Every little while some one innocently inquires if it isn't "nearly time to set another turkey."

MAIDA McL.

ECONOMICAL PUDDINGS

Most cook-books seem put up for house-keepers who possess a pléthoric purse, and call for eggs and butter regardless of cost. I submit several receipts for inextravagant desserts which are popular in our family:

MARSHMALLOW PUDDING.—Boil one quart of new milk, dissolve two rounded tablespoonfuls of corn-starch in one half cupful of cold milk, a pinch of salt, three fourths of a cupful of sugar. Stir into the boiling milk. Cook until thick. Remove from fire, and divide in two parts; into one part stir lightly the well-beaten whites of two eggs, into the other four tablespoonfuls of melted chocolate. Put into a mold in alternate spoonfuls. Serve when cold with cream. Flavor with vanilla.

APPLE PUDDING.—Fill a buttered baking-dish two thirds of the way with sliced apples, pour over top a batter made of one half cupful of sugar, one tablespoonful of butter, one half cupful of sweet milk, one egg, one cupful of flour and one heaping teaspoonful of baking-powder. Serve with milk and sugar. Bake about half an hour.

SIMPLE COTTAGE PUDDING.—Beat two eggs very light, add half a cupful of sweet milk, one tablespoonful of butter beaten with one cupful of sugar, one pint of flour and one teaspoonful of baking-powder. Bake half an hour. Serve with sauce.

MARY M. WILLARD.

[CONCLUDED ON PAGE 12]



A DEAD-SEA APPLE

By *Virna Woods*

Author of "The Amazons," "A Modern Magdalene," "Jason Hildreth's Identity," "An Elusive Lover," etc.

CHAPTER V.

Im worried about Veva," Mrs. Parker confided to her husband one day, as he sat on the veranda suoking his pipe and looking now and then through the open door of his blacksmith-shop across the street, that he might not miss a possible customer. He drew in a deep breath, and exhaling a fragrant cloud of smoke, spoke through his teeth.

"What's the matter with her?" he said. "She's so pale and thin. I'm afraid she's going to be sick," his wife replied.

"Oh, you're fanciful, Dora. The girl's all right." And he watched contentedly the curls of smoke as they floated slowly away in the air.

Mrs. Parker sighed and reflected with some bitterness that it had always been thus when she had sought sympathy. She glanced up at the old man, and saw that he was looking dreamily away to the hills, and she knew that his thoughts had passed from her already, and were busy with memories of his own. She did not interrupt his reverie, but arose and went into the house.

"Phil," she called, looking out the dining-room window to the yard, where the boy had attached a hose to the well, and was "inventing" some new plaything, "is Bahens with you?"

"Yes," the boy replied. "She's right around the corner of the house."

"Well," said his mother, "you must look after her a little while. I'm going up to Mrs. Leonard's to see how her rheumatism is."

"Where's Aunt Veva?" asked the boy, his freckled face clouded with a shade of disappointment.

"I don't know. I think she must be lying down. Aunt Veva is not well, and you must take care of Bahens. And don't let her eat any fruit. It will make her sick."

The boy assented somewhat sullenly, and a moment later he saw his mother passing up the street.

"Bahens!" he called, and the child came to him. "Now don't you run off nor eat any fruit," he said, shaking a warning forefinger at her. "but stay here; and don't hother hrother, for he wants to invent a new process of hydraulic mining."

"All right," said Bahens, with her usual air of understanding the big words her brother had such facility in acquiring from his elders. And she straightway went off to follow her own devices.

Veva was not lying down in her room, as Mrs. Parker had thought, but was sitting in the parlor looking through the glass door at the deserted street. She started as she heard a step on the threshold behind her, and turning, met the gaze of Theodore Bland.

He went in and drew up a chair beside her. A book lay face down on her lap. It was the volume of Petrarch he had given her.

"I want to get you some new Italian books," he said.

"You are too good to me," she replied, and he remembered that she had used the same words to him before.

The wanness of her face struck him with a pang of remorse.

"You are not well, Veva," he said, sadly. "You look like a—"

"Like a what?" she asked, smiling again, as he pained for a fitting simile.

"Like a white Mariposa lily," he concluded. And, indeed, there was something in her frail beauty suggestive of the fragile mountain flower drooping on its slender stalk.

"Thank you," she said, softly. "If our souls were doomed to transmiration into flowers I would choose the Mariposa lily for my next incarnation."

"And bloom unseen on some wild mountain slope amid the mosses and the fern brake. It is too much like your life, Veva. You must wish for broader opportunities."

"And do you think there is not a moment when I am not wishing for them?" she cried. "My life had grown to be intolerable here until—"

She broke off in sudden confusion. He knew she would have said until he came. Her hand lay on the arm of her chair close beside him. He longed to lift it to his lips, his breast.

"I will send you the books from the city," he said instead. "I am going below to-morrow."

She gave a faint cry, and gripped her hands together in her lap. Her eyes, lifted to his, were full of a pleading surprise.

"I will not be gone long, Veva," he said, soothingly. "I will be back in a few days."

Her hands relaxed, and a sigh of relief escaped her.

"You must think me very foolish," she said. "I—I would miss the lessons."

She looked so adorable in her sweet embarrassment as she tried to cover the betrayal of her feeling that a mad wave of longing swept over him. He lifted her hand from her lap, and pressed it between his own. He leaned toward her, and she raised her eyes to his luminous with love. A moment more and the passion he had so long

suppressed would have broken forth in a torrent of words.

"Aunt Veva, Aunt Veva!" cried a voice, shrill with excitement.

They turned and saw little Phil standing in the doorway, his white hair protruding through the broken brim of his hat, and an expression of consternation on his sharp-featured, precocious face.

"What is it?" cried the girl, jumping to her feet.

"Babens has et most all the half side off an apple," he explained, with more haste than lucidity, "and mama said for her not to eat any fruit, and she's sick."

"Where is sister?" asked Veva.

"She's gone to see Mrs. Leonard's rheumatism, and I was making a new kind of sluice for hydraulic mining, and Bahens went off, and I told her not to—"

But Veva was half way down the stairs. The boy followed her.

Theodore Bland did not see the girl again until dinner, when she devoted herself to Babens, who sat beside her, pale and a little fretful. Phil did

The train had been in an hour, but she had been busy with Bahens, and could not get away before. The crowd at the post-office had already dispersed; only old Hi Graham, from Coon Hollow, who had been purchasing a supply of provisions, was clumping into his wagon in front of the store. Veva went in and stopped before the mail window.

"There's a letter for you, Veva," said the old postmaster.

The girl's heart gave a sudden bound.

"It's from your folks in Ohio," he continued, as he lifted the pile of letters in G and peered at them through his glasses. She bit her lip in vexatious disappointment as he handed it out.

He turned to replace the pile of letters in the pigeonhole!

"Look through the pile, please, Mr. Leonard," said Veva, reluctant to give up her hope.

"But that's all there is, Veva, I remember," he replied.

"Just look to please me," the girl urged.

He complied, with an indulgent laugh. As he shifted the letters in his hand he gave a sudden exclamation.

"Harry!" he called to the young man who lounged behind the counter, "go out and stop Hi Graham; here's a letter for him."

"Why, didn't he ask for his mail?" said Harry, in surprise.

"Yes," replied the old man, "but I found one letter, and I didn't go any deeper."

Hi came in and held out his hand for the letter. "I thought one was enough for you," laughed the postmaster, apologetically.

Hi muttered under his breath, and withdrew with his mail. Mr. Leonard went on looking through the pile.

The paper fell from her hand and fluttered to the floor. She roused herself, and picking it up, put it carefully away in her desk. Then she crossed the room and threw herself upon the bed. Her heart throbbed with a strange sharp pain.

It must have been hours that she lay there suffering, for the twilight gathered slowly in the room, and she knew from the sound of cow-bells that the cattle had been driven into the corral. She wondered in a dull, indifferent way that no one had called her to lunch, for she did not know that Mrs. Leonard had been violently ill, and had sent for her sister. Even the children, busy at their play, had not disturbed her, and the long afternoon had worn away in silence. At intervals she pressed her hands against her heart, striving to ease its heavy beating, and thinking the while that after all it mattered little whether it ceased or not. A strange mental apathy had fallen upon her, and she saw stretching before her a weary succession of years without hope. She did not moan nor cry out; she only lay in a rigid calm, indifferent to the familiar sights and sounds that made up her little world.

The twilight deepened. Soft steps came up the stairway and through the hall, pausing at her door. The knob turned, then a voice called to her.

"Veva! What is the matter?"

"Wait a minute, sister, and I will open the door," the girl replied.

She arose and crossed the room, staggering a little as she walked. She stretched out a trembling hand and slipped the lock in the door.

Mrs. Parker came into the room and lit the lamp on the table.

"What is the matter, Veva?" she asked, anxiously.

"I have sharp pains in my heart," the girl replied. "I have been lying down."

"You must have taken cold," said her sister, "for your window is open. It is probably neuralgia. Come down-stairs, and I will give you some quinine before we go out to dinner."

The girl brushed back her tumbled hair, and followed her sister out of the room. As she crossed the door-sill she reeled, and striking the casing, fell back heavily to the floor. Mrs. Parker turned with a cry, and knelt beside her. By the light of the lamp she had left burning on the table she saw that Veva's face wore a deathly pallor, and her breath fluttered unevenly.

"She is going to faint," she cried, in alarm, and stepping to the head of the stairway, called Mr. Parker, who was sitting in the office with a guest.

The old man came out leisurely, quickening his step at sight of his wife's terrified face.

"Veva has fainted," said Mrs. Parker.

He followed her to the room, and lifting the girl in his arms, laid her on the bed. Her eyelids drooped, but she had not lost consciousness. Her face and hands were as cold as though she were dead.

"Bring me some whisky," said Mrs. Parker, as she began to chafe the inert little hands. But the whisky had no apparent effect.

"We must put her hands in hot water," said Mrs. Parker. "Go down and ask Chock for some."

The old man obeyed, and in a few moments returned with a steaming basin. As Mrs. Parker put the cold little hands in the water the girl gave a low cry. A sharp pain as of a knife-thrust had pierced her breast, but the warmth and color came back to her face, and in a few moments she was able to rise and follow her sister to the dining-room.

After dinner she said she felt better, and sat in the sitting-room with Mrs. Parker and a school-teacher, who was on her way to Wild Rose Flat.

About eight o'clock little Phil came in with the evening mail. Mrs. Parker opened the letter he handed her, and several hills fell out.

"Veva!" she exclaimed, when she had finished reading it. "Mr. Bland is not coming back. He has sent the money for his hoard, and says we are not to trouble ourselves to send him the things in his room."

"Is that so?" said Veva, indifferently. She was sitting in a rocking-chair with her head propped on her hand.

"Could she have sent him away?" thought Mrs. Parker, in perplexity. "Or did I only imagine there was something between them?"

She asked herself this question again and again with troubled retrospection of the last six months, during the long hours that she lay awake that night. She blamed herself for not having sought her sister's confidence, and for having made no effort to learn something of the strange hoarder who had kept his business and his past life wrapped in impenetrable mystery. She felt uneasy, too, about Veva's health, but she had become so accustomed to this anxiety that it hardly pressed more heavily than usual upon her.

In the morning, however, Veva did not come down to breakfast. Mrs. Parker arranged some toast and poached eggs and tea on a tray, using her best china and a dainty tray-cloth to make the viands tempting to the girl. She went up-stairs and tapped at Veva's door. At first there was no response, then a faint voice said, "Come." She tried to turn the knob, but the door was locked. She went out on the veranda, and raising the window, stepped into the room. Veva was lying in bed, her hand pressed against her heart.

Mrs. Parker set the tray on the table, and bent anxiously over her sister.

"You are sick, Veva," she said.

"Yes," was the reply.

"What is the matter?" asked Mrs. Parker.

"It is the same, my heart," the girl replied, and Mrs. Parker thought she would again lose consciousness.

This time it was two hours before the simple remedies applied had any effect upon the patient, who roused from one sinking spell only to relapse



THEY TURNED AND SAW LITTLE PHIL STANDING IN THE DOORWAY

not participate in the meal, having been sent to bed in disgrace.

Though Bland sought the girl later, and they spent the evening over their books, the conversation interrupted by Phil was not resumed. He said good-night with grave gentleness, and held her hand just a moment longer than usual.

"It is good-by, too, Veva," he said, "for I will be off in the morning before you are up."

"Good-by," she said. A choking in her throat prevented further utterance. She turned and went swiftly to her room, that he might not see her emotion. But he understood, and cursed himself and his fate under his breath.

In the morning he ate a solitary breakfast, ministered to by the reluctant Chock. When the six o'clock train swept by the corner of the house he stood on the platform and looked at Veva's windows. The shrill whistle and the puffing of the engine roused the girl from a troubled sleep. A strange sense of foreboding settled heavily on her heart; she turned her face to the wall, and wept.

CHAPTER VI.

It was five days after Theodore Bland had gone away that Veva went to the post-office with an unacknowledged hope that a letter might be waiting for her. On the second day of his absence the promised books had come. She had not asked him to write to her, but now that his absence had prolonged itself beyond the expected time she could not quite stifle the hope that he would do so.

At last he drew out a letter and held it close to his eyes, to examine the post-mark.

"This is from San Francisco," he remarked. "I don't see how I came to overlook it."

He did not see that Veva was holding out a trembling little hand for the letter.

"The address is type-written," he went on; "perhaps it's only a circular." And he gave it to her at last.

She went into the sunlight, a sudden blackness before her eyes. That the letter was from Bland she did not doubt for a moment. Her heart throbbed; she trembled. But the intense excitement passed, and she walked down the dusty street as in a dream.

She met no one in the house, and went up to her own room. Closing and locking the door, she sat down by the window and tore open the envelope. A warm flush crept over her face, as with an impulse she lifted the letter and pressed it to her lips.

Then she read, and her face grew rigid and pale. She stared at the open sheet, but the words had become a blur to her eyes and a senseless sound to her mind. They ran briefly thus:

"I am going away, and shall not see you again. Think kindly of me if you can. I have not dared to tell you what you might have been to me; but you must know that I love and worship you, sweet Veva Gladding. It is because I love you that I am going away; but henceforth my life will not be so lonely as though you had never crossed my path."

T. B.

bearded populace, all awaiting the arrival of the ship Giralda, which came in good time, amid the booming of salutes, and the excitement of landing the precious box containing the remains.

The Duke of Veragua went on board the ship to view the relic, and then followed it in procession through the crowded streets and beneath the many balconies, where the señoras and Carmens of old Seville were grouped to see the show. Arrived at the cathedral, there was a service of great solemnity, conducted while the people packed and crowded to get a glimpse of the tall hier, where, surrounded by many huge candles, the little box was perched high up on the top of all. Women knelt in groups before the altar rail, the rich tones of melody thundered and melted through the gloom of old arches and recesses, the sunlight streamed in through a distant window, lighting up the tops of the heads and faces of the crowd who stood in the gloom, the many candles spread a soft light around the hier, while the incense rose in thin clouds as the service proceeded, conducted by all the clergy present. A guard of soldiers stood fixed around the precious relic, and a row of priests in front of them held candles while the cardinal went in solemn procession twice around the hier. The choir of priests sang the services from the old parchment volumes, turning the huge leaves of sprawling bars and notes large enough to be read across the aisle.

The service over, the box—with the one small bone and beap of dust—was taken down with the greatest care by the cathedral servants, gently lifted down on to a huge plush cushion, and then covered by a cloth, and with great solemnity carried and treasured away, under lock and key, surrounded by a strong guard.—William Bengough, in Collier's Weekly.

THE END OF THE WORLD

The comet which an Austrian astronomer states will next year buck the earth into kingdom come, and toss it, disemboweled, to fertilize the furrows of space where worlds foment, already projects a light which we have lacked into the beauties of Austrian astronomy. Since the day when a French astronomer declared that comets were composed of diamonds and gold we have encountered nothing more entertaining. A little over a century ago comets were learnedly regarded as siderial automobiles packed not with globe but with universe trouters, Maupertius pictures one pulling up at Paris and wondered who would be the more surprised, the boulevardiers or the tourists. The imagination of Ambrose Pare was capable of even greater flights. In his work entitled "Celestial Monsters" he describes a blood-colored comet that sailed about freighted with axes, knives and swords, and which was manned with hideously bearded gnomes. "So horrible and frightful was," he says, "the spectacle of it, and such terror did it engender among the devout, that many fell sick, and others died." Lambert hastened to the rescue. In his "Cosmological Letters" he distinctly stated that a blood-colored comet, however well equipped, could only destroy a few kingdoms. But later he was induced to admit that a real big one might carry off the moon or hurl us "beyond the region of Saturn, where hideous winter reigns interminably." Kepler himself believed that comets were animated. He said there were more in the sky than fish in the ocean. Arago saw and counted them all. According to him, there were exactly seventeen million five hundred thousand. According to Laplace, one of them produced the deluge. On the other hand, Newton announced that a comet as long as from here to Saturn would, if condensed to the degree of our atmosphere, find comfortable quarters in a thimble. Now comes this Austrian gentleman. The peacock which he sees in the perihelion, disturbs us as little as it disturbs Flammarion. We assume, as he does, that the end of the earth will coincide, not with the end of the century, but with the end of the sun. When that event occurs we shall all have been too long dead to bother.

THE WEALTH OF OUR COUNTRY

The wealth of the American people to-day surpasses that of any other nation, past or present. The development of the intellectual and industrial powers of the United States has in the last seventy years been stupendous, but our immediate concern is not with that, but with the marvelous growth in the wealth of the country. The census taken in 1820 showed the wealth of the United States as \$1,960,000,000, or an average of \$205 for each head of the population. Seventy years later, to take the whole length of human life, the return was \$65,037,000,000, or \$1,039 for each inhabitant. The rate of increase has not been uniform throughout the period mentioned. In the first interval of twenty years our country doubled its wealth, in the second it was quadrupled, but in following years, although the increase of wealth for each head was unprecedented, the rate of geometrical progression was much less.

From 1821 to 1840 the average annual increase was about one hundred million, or a little over seven dollars and a half for each head of the population; in the next twenty years it was about six hundred and thirty-five million, or nearly thirty dollars for each inhabitant; from 1861 to 1880 the annual increase was nearly one billion three hundred and seventy millions, or over thirty dollars for each inhabitant.

These figures are startling enough, but in the last decade of our seventy years the accumulation has been still more marvelous, the average increase being over two billion, two hundred and twenty-five million, or about forty dollars for each inhabitant.—Ledger Monthly.

THE LOVER'S LEAP

Of all lover's leaps sung in song or told in story that was the greatest. Do you remember the story as Mr. Browning tells it in the rhyme of the Duchess May? A tale of those fierce feudal times when might was right, and when the law was writ in the sharp edge of a man's sword. Sir Guy had stolen away the bride of a rival suitor. And now that rival has besieged the castle, which has sheltered their brief happiness, until there is no more use in defense. In despair Sir Guy climbs to the topmost tower and sends for his steed. He will take one leap from the battlement and die like a man. But his



wife hears the steed's hoofs on the stairs, and follows. It was the horse that had borne them on the night of their bridal, swift and safe from pursuing vassals, and her hand was on the bridal when spouse and steed swept out upon the tower.

Down she knelt at her lord's knee,
And she looked up silently;
And he kissed her twice and thrice
For that look within her eyes
Which he could not bear to see.

Then putting her away from him, he bade her go back to her tiring-room and her maids. But she by wifely bond and woman's love swore that in death or life she would not be parted from him. He turned and sprang to the saddle, but she caught and clung to the stirrup-rein. With bit and spur he backed his horse for that wild leap from the battlements, "whence a hundred feet went down." But she still clung, half swooning, her hair sweeping the ground, and her limbs dragging. Three times her husband broke her clasp, and three times her hands closed again with the same convulsive clutch. Then, as commending her to God, he pressed his horse back for the fearful leap, love gave her almost superhuman strength and she climbed to the saddle with him. "By her love she overcame."

And her head was on his breast,
Where she smiled like one at rest.

Then the horse, in stark despair, with his
Front hoofs poised in air,
On the last verge-rears amain.

Now he hangs, he rocks between, and
His nostrils curdle in;
Now he shivers, head and hoof, and
The flakes of foam fall off,
And his face grows fierce and thin.

Then hack-toppling, crashing back,
A dead weight flung out to wrack,
Horse and riders overfell.

Oh! men sigh, that was a woman to die for. There are no such women nowadays. The high heroism is a thing of the past. Let the man who thinks so go into his kitchen awhile and watch his wife, worn and weary, while he ponders this saying:

It's harder to live with the average man than to die with him.

There are doubtless women, worn out, broken down, crushed by the duties of wifehood and motherhood, who would gladly trade all these years of suffering and pain for a few joyous months that followed marriage, and then, like the Duchess May, smile at the dark leap, with the arms of the man she loved close-clasping her.

Every wife, every mother is a heroine. Is there no courage in putting that little hand into yours, and forsaking father and mother for your sake? Is there no heroism in assuming the responsibility and risk of motherhood?

It is doubly heroic when the young woman can look around her and see what loss marriage so often entails—loss of health, of figure, of complexion, of strength.

The best recognition that can be given to the heroism of women is that which minimizes its perils and smooths the path of duty as much as is possible. It's a very

beautiful thing to have a monument setting forth the virtues of the wife and mother, with a weeping husband hanging wreaths about it. But it is a very much more beautiful thing to be a happy, healthy woman and a "joyful mother of children."

The crown of motherhood ought not to be a crown of martyrdom.

The most practical recognition of the worth of woman, her courage, her suffering and her needs, is to be found in that "God-send to women," Doctor Pierce's Favorite Prescription. There is no extravagance in that statement. The martyrdom of motherhood is done away by the use of this great remedy for female troubles, debilitating drains, and the inflammation and ulceration which cause such suffering.

"I would like to express my gratitude to you for the benefit I have received from your wonderful medicine, Dr. Pierce's Favorite Prescription," writes Mrs. H. C. Anderson, of South Britain, New Haven Co., Conn. (Box 33). "During the first month after I found I was going to become a mother I could not keep anything on my stomach; was so sick that I had to go to bed and stay for weeks. In fact, I went to bed the 28th of June and never got up till the first of August. I tried different doctors, but with little benefit. I read about many being helped by using your medicine, so I thought I would give it a trial. I began to take your 'Favorite Prescription' in November, and I had a nice little baby girl in February following. My baby weighed over eight pounds. I was only in hard labor about one hour, and got along nicely during confinement; was up and dressed on the eighth day. I never had the doctor with me at all; just the nurse and one or two friends. My friends thought that I was sick a very short time. I think Dr. Pierce's Favorite Prescription is indeed a true 'mother's friend,' for it helped me wonderfully. It kept me from having a miscarriage. This makes my second child; with the first one I did not take 'Favorite Prescription,' and I had a miscarriage. The little one lived just about two months and was sick all the time. This last baby is as plump and healthy as any mother could wish. She is about three weeks old now, and is gaining in flesh every day."

That letter offers a practical example of what "Favorite Prescription" has done for thousands of women. It is such that all the delicate and sensitive womanly organs are promptly helped and surely healed. Debilitating drains are dried up, inflammation and ulceration healed, female weaknesses cured, and the whole of the organs peculiarly feminine are given vigor and elasticity. As a result of this the baby's coming is not dreaded, and its advent entails no trial beyond the natural strength. When local health is thus established, the causes of the hollow cheek, dull eye and thin form are taken away.

Sick women are invited to consult Dr. R. V. Pierce by letter, without charge. Every letter is held as strictly private and sacredly confidential, and to preserve that privacy throughout all answers are mailed in perfectly plain envelopes without printing or advertising upon them. Write without fear as without fee.

Designing men sometimes invite women to "write to a woman" on the score of receiving "a woman's sympathy," and that "a woman understands woman's ailments." The "bearded lady" is evidently not found in the dime museum alone. There is, as far as known, no woman physician qualified to practice connected with any proprietary medicine. It is absolutely certain that there is no woman with a record equal to Dr. Pierce's; more than thirty years of special study of woman's diseases, in which more than half a million have been treated and ninety-eight in every hundred have been completely cured.

There is no alcohol, whisky or other stimulant in "Favorite Prescription." It contains no opium nor other narcotic, and is entirely free from syrup or sugar, which disagrees with and is injurious to some stomachs. Without any of these ingredients it preserves all its healing virtues in any climate, and retains its pleasant flavor.

For 21 one-cent stamps to pay cost of mailing only, you can get a free copy of the "Common Sense Medical Adviser," a work of 1008 pages. Cloth bound 31 stamps. Send to Dr. R. V. Pierce, Buffalo, N. Y.

DON'T THROW AWAY AN OLD "ACME" HARROW

"It is an implement that never wears out. Viz: only the coulters wear, and they can be replaced at small cost." The manufacturers will furnish Extra Parts for any "ACME" Harrow made since the beginning of the world, and at very REASONABLE PRICES. See advertisement in another column.

EVERY SUCCESSFUL farmer who raises fruits, vegetables, berries or grain, knows by experience the importance of having a large percentage of

Potash

in his fertilizers. If the fertilizer is too low in Potash the harvest is sure to be small, and of inferior quality.

Our books tell about the proper fertilizers for all crops, and we will gladly send them free to any farmer.

GERMAN KALI WORKS, 93 Nassau St., New York.

\$50 Gold Given Away!
The Great Star Puzzle.



We will give Fifty Dollars in Gold to any person who will cut out the six pieces and paste them together on a blank piece of paper so as to form a perfect five-pointed star. This can be done. Try it! The money will be paid June 15th, 1899. If more than one successful contestant the money will be equally divided. The only condition is that every person sending in their name must sell for us 24 of our Arc-Light Electric Lamp Wicks at Five Cents each and return to us \$1.20 for same, and as a premium for selling the wicks we will give a beautiful Gold-Filled Ring, set with an imported stone, which will puzzle an expert to distinguish from a genuine diamond which would sell for \$100.00; if a different premium is desired, a selection can be made from our large premium list sent you with the wicks.

No money required in advance. Send for wicks, sell them and return \$1.20, and any premium selected will be promptly sent. We will take the wicks back if you cannot sell them.

Our wicks are something entirely new. They give a light nearly equal to the Electric Light, being chemically treated with carbon, by means of which the white electric light is attained. Burns one year, no trimming required, no smoke, making kerosene light equal to electricity. Do not confound our wicks with any of the so-called everlasting or Indestructible wicks now on the market, which are simply fakes. If you sell the first lot more will be sent, if desired, and we will allow you a handsome cash commission for selling them. If you do not wish to contest for the prize we should be pleased to have you order wicks and sell them to secure the premium. Write to-day and we will send the first lot promptly.

Arc-Light Concern, Box 5308, Boston, Mass.

Gold Plated Chatelaine
FREE

Your choice of this beautiful gold plated Chatelaine, or a gold filled ring, for selling 20 of our

LADIES' GOLD PLATED BEAUTY PINS
AT 5 CENTS EACH.
(Regular price 10 cents.)

No Money Required in Advance

Just send us your name and address, saying you will sell the pins or return them, and we will mail them at once, on receipt of your letter. Everybody needs several of these pins. You can sell them in a few minutes at 5 cents each. Send today—don't wait.

LADIES PIN CO.
818 Schiller Building, Chicago

\$26 REAL BARGAINS

Road Wagons	at \$16.45
Top Road Wagons	at \$22.70
Top Buggies	at \$26.00

Surries \$43.50; Phaetons \$37; Spring Wagons \$29; Single Harness \$3.75; Farm Harness \$12. Also Carts, Saddles and everything in the vehicle line at lowest wholesale prices. All correct in style, quality and workmanship. Buy direct from factory. Save dealer's profits. We sell one or more as low as others sell in our lots, and ship C. O. D. with privilege of examination. Guaranteed as represented or money refunded. Write for catalogue and testimonials free.

CASH BUYERS' UNION, 158 W. Van Buren St. B 7, Chicago

Do You Want of the merits of our

Any More HAND Proof? Cultivator

Well we have hundreds of letters just as good as this: Gentlemen: The Cultivator came to hand a few days ago and I am delighted with it. Rev. H. T. CUNNINGHAM, Carrollton, Miss. Send \$1.25 for sample delivered. Agents wanted. ULRICH MFG. CO., 43 River St., Rock Falls, Ill.

The Most Cider

of the BEST QUALITY and the PUREST form can be secured from a given quantity of apples by the use of the

HYDRAULIC CIDER PRESS.

The only press awarded medal and diploma at World's Fair. Get our free illustrated catalogue before buying.

HYDRAULIC PRESS MFG. CO., 6 Main St., MT. GILEAD, OHIO.

MISCELLANY

SPEAK a word of encouragement to the young. A smile in the morning is worth two at night.

Every form of Lung or Throat Disease can be relieved and the great majority cured by the use of Jayne's Expectorant.

BEES are said to see an enormous distance. When absent from their hive they go up in the air till they see their home, and then fly toward it in a straight line.

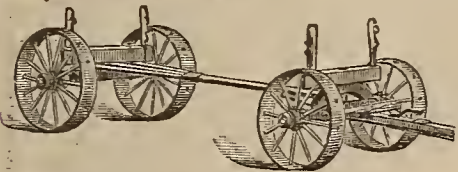
THE WHITE MAN'S BURDEN

Is paying rent for a poor farm. Now is the time to secure a good farm on the line of the Chicago, Milwaukee & St. Paul Railway in Marinette County, Wisconsin, where the crops are of the best, work plenty, fine markets, excellent climate, pure soft water, land sold cheap and on long time. Why rent a farm when you can buy one for less than you pay for rent? Address C. E. Rollins, Land Agent, 161 La Salle Street, Chicago, Ill.

"I WONDER where that inelegant word 'dog-gone' originated?" "Don't you know? Why, in that old song." "What old song?" "The one that begins, 'Oh, where, oh, where has my little dog gone?'"—Philadelphia Bulletin.

FARM WAGON FOR ONLY \$19.95

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Co., Quincy, Ill., has placed upon the market a Farmer's Handy Wagon, sold at the low price of \$19.95. The wagon is only 25 inches high, fitted with 24 and 30 inch wheels with 4 inch tire.



This wagon is made of best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

RAILROAD PALACES

The new Pullman Palace Sleeping Cars, built specially for the Union Pacific and recently put in service on their famous fast trains between Chicago, Colorado, Utah, California and Oregon points, are the finest ever turned out.

Throughout the interior the drapings, woodwork and decorations are in the most artistic style, and the conveniences vastly superior to anything ever seen before.

These cars are attached to the Union Pacific fast trains, which make quicker time to all Western points than trains of any other lines.

For time tables or any information apply to your local agent, who can sell you a ticket via the Union Pacific, or address A. G. Shearman, Gen. Agt. Pass. Dep't, U. P. R. R. Co., Room 36, Carew Bldg., Cincinnati, O.

FARMERS FOR SPOKANE

Big Money to be made raising grain, fruit, stock and poultry. Fine land cheap. Write for literature and particulars to Chamber of Commerce, Spokane, Wash.

A HINT TO MA

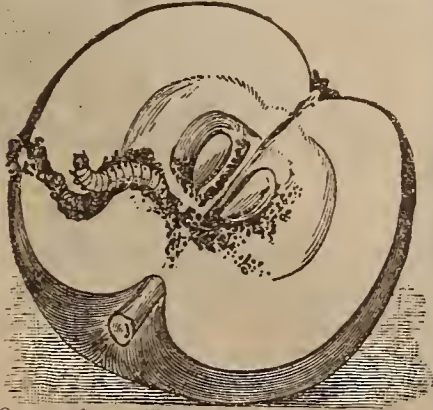
This precocious youngster of six still lives with his family in a fine home near the city limits, but there is no telling when he may strike out on his own hook, for he is a boy of decided opinions and vast self-reliance.

One morning the mother was doing quite a job of scolding because so few of the family were ready for breakfast at the appointed hour. She wanted them to understand that she was not running a hotel, and that they must come down in time or shift for themselves.

"Maw," broke in the young hopeful, shrilly, "you'll make us all sorry we married you if you don't quit talkin' so much!"—Detroit Free Press.

SPRAYING FRUIT-TREES

The question of spraying fruit-trees, to prevent the depredations of insect pests and fungous diseases is no longer an experiment, but a necessity.



Our readers will do well to write Wm. Stahl, Quincy, Illinois, and get his catalogue describing twenty-one styles of Spraying Outfits and full treatise on spraying the different fruit and vegetable crops, which contains much valuable information, and may be had for the asking.

Truth is stranger than fiction
You know it
And
You forget it
Until something happens
Then
You realize it
Thus
That enormous output
Of machines
For which
McCormick is famous
All over the world
That output
Which dwarfs all other outputs
By this shrewd advertisement
Shows its mammoth proportions
And you are astonished
Yet you know it
Knew it well
Truth is truth but it needs

The McCormick Harvesting Machine Company
of Chicago built and sold 189,760 machines
in the season of 1898 just past.



A Strange Reflection to emphasize it.

Our great sale is your guarantee. The most modern machine means most for your money. Buy the McCormick, it is always the best and it is always the cheapest in the end.

- BUY McCORMICK BINDERS. BUY McCORMICK ONE HORSE MOWERS.
BUY McCORMICK DAISY REAPERS. BUY McCORMICK CORN HARVESTERS.
BUY McCORMICK BIG 4 MOWERS. BUY McCORMICK RAKES.
BUY McCORMICK NEW 4 MOWERS. BUY McCORMICK FODDER SHREDDERS.



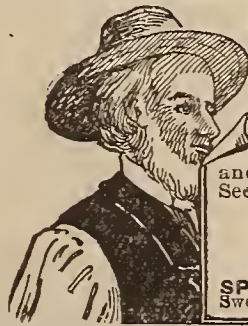
NEIGHBOR'S SON. We have not had a doctor at our house for goin' on two year.

FARMER. Don't nobody ever get sick?

NEIGHBOR'S SON. Not much, and when anything seems to be wrong, mother makes us take a Ripans Tabule.

FARMER. That's just what my wife does, too, and we've never used up the first half dollar's worth yet. I took two of 'em in the spring, and they did the business for me first rate.

A new style packet containing TEN RIPANS TABULES in a paper carton (without glass) is now for sale at some drug stores for FIVE CENTS. This low-priced sort is intended for the poor and the economical. One dozen of the five-cent cartons (120 tabules) can be had by mail by sending forty-eight cents to the RIPANS CHEMICAL COMPANY, No. 10 Spruce Street, New York—or a single carton (TEN TABULES) will be sent for five cents.



Farmers & Gardeners

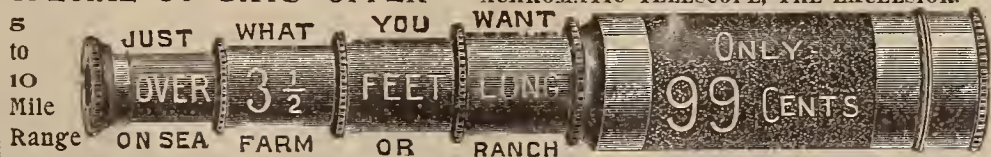
Write for our new 1899 catalogue. Full of valuable points and suggestions which bring profit. Contains description, prices and directions for growing. All kinds of Farm, Garden and Flower Seeds, Trees, Vines, Plants, Shrubs, Bulbs and Machinery.

D. LANDRETH & SONS, (Est. 1784)

21 and 23 S. Sixth St., Philadelphia, Pa.

SPECIAL—To get names of seed growers we will mail 5 distinct packets of named Sweet Peas (retail at 5c. each) and our beautiful catalogue to any address for 10c.

SPECIAL 60 DAYS OFFER TO INTRODUCE OUR LATEST LARGE, POWERFUL ACHROMATIC TELESCOPE, THE EXCELSIOR.



POSITIVELY such a good Telescope was never sold for this price before. These Telescopes are made by one of the largest manufacturers of Europe, measure closed 12 inches and open over 3 1/2 feet in 5 sections. They are BRASS BOUND, BRASS SAFETY CAP on each end to exclude dust, etc., with POWERFUL LENSES, scientifically ground and adjusted. GUARANTEED BY THE MAKER. Heretofore, Telescopes of this size have been sold for from \$5.00 to \$3.00. Every sojourner in the country or at seaside resorts should certainly secure one of these instruments; and no farmer should be without one. Objects miles away are brought to view with astonishing clearness. Sent by mail or express, safely packed, prepaid for only 99 cts. Our new catalogue of Watches, etc., sent with each order. This is a grand offer and you should not miss it. We WARRANT each Telescope JUST AS REPRESENTED or money refunded. WANTS ANOTHER, Brandy, Va., Gents.—Please send another Telescope, money enclosed. Other was a bargain, good as instruments costing many times the money.—R. C. ALLEN. Send 99 CENTS by Registered Letter, Post Office Money Order, Express Money Order, or Bank Draft payable to our order, or bare your storekeeper or newsdealer order for you. EXCELSIOR IMPORTING CO., Dept. M., Excelsior Bldg., New York, Box 785.

SILK REMNANTS FOR CRAZY WORK.

A big package of beautiful Silk Remnants, from 120 to 150 pieces, all carefully trimmed, prepared from a large accumulation of silks especially adapted for all kinds of fancy work. We give more than double any other offer, and the remnants are all large sizes, in most beautiful colors and designs. With each assortment is four skeins of the very best embroidery silk, assorted colors. Send 25 cents in silver or stamps to Paris Silk Agency, Box 3045, N. Y. City, N. Y.

Advertisement for BRACES, For Spine and Limbs, featuring the Wilson National Surgical Institute, Indianapolis, Ind.

Advertisement for PARKER'S HAIR BALM, Cleanses and beautifies the hair, Promotes a luxuriant growth, Never Falls to Restore Grey Hair to its Youthful Color, Cures scalp diseases & hair falling.

Advertisement for \$100 a Month TO MEN AND WOMEN AGENTS, useful household necessities. For samples and terms address WHITE MFG. CO., Dept. 55, Ithaca, New York.

Churning Made Easy

DAIRY THERMOMETER

Cream becomes of sufficient ripeness for churning after it has stood twenty-four hours at 60°. The temperature for cream at churning is 60° to 62° in warm and 62° to 64° in cold weather.

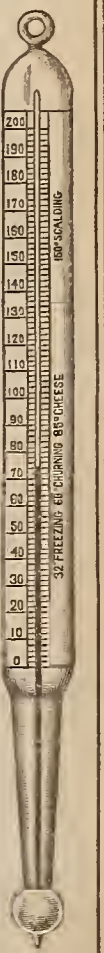
This dairy thermometer will pay for itself in a single churning. It saves time, labor and temper. It stops guesswork, making churning an easy task and good butter a certainty.

The illustration opposite is a reduced but exact picture of the Glass Floating Dairy Thermometer. It is 8 3/4 inches long. On the inside of the air-tight tube is the scale with the degrees marked in large figures.

If not broken by accident the thermometer will last a lifetime. We guarantee it to arrive safely and to give entire satisfaction or money refunded. Full information on temperature of cream and valuable hints on butter-making sent with thermometer.

We purchase them at factory prices and furnish them without profit—it is the clubs and subscriptions that we want—hence our very liberal offers.

LENGTH 8 3/4 Inches



Premium No. 469

We give it FREE for a club of TWO yearly subscribers to the Farm and Fireside.

We will send the Farm and Fireside one year and this Thermometer for 50 Cents. 50c.

(When this offer is accepted the name may be counted in a club)

Postage paid by us. Address FARM AND FIRESIDE, Springfield, Ohio

CHEAPER AND BETTER HARNESS

can be bought direct from our factory at wholesale prices than in any other way. We save you all the dealer's profits. 100 styles to select from. Each made from the best oak tanned leather. Send 4c instamps for 148-page book which tells you all about the goods. We are sure to save you money. KING HARNESS CO., 113 Church St., Owego, N. Y.

Cheaper to buy new than repair old—WHY?

- \$6.50 buys 4 Buggy Wheels 7.8 in. Steel Tire
\$6.85 buys 4 Carriage Wheels 1 in. Steel Tire
Repairing soon eats up price of new.
Our wheels stand the racket.
We give full value for money.
We can furnish axles and set boxes properly. Write for new price list No. 12 and directions for measuring.
WILMINGTON WHEEL CO., Wilmington, Del.

BED-WETTING CURED. Sample FREE. Dr. F. E. May, Bloomington, Ill

40 Cent Patterns for 10 Cents

We will send any TWO PATTERNS, and this paper one year, for 40 CENTS
(When this offer is accepted the name may be counted in a club.)

These patterns retail in fashion bazaars and stores for twenty-five to forty cents each, but in order to increase the demand for our paper among strangers, and to make it more valuable than ever to our old friends, we offer them to the lady readers of our paper for the low price of only 10 Cents Each.

Full descriptions and directions—as the number of yards of material required, the number and names of the different pieces in the pattern, how to cut and fit and put the garment together—are sent with each pattern, with a picture of the garment to go by. These patterns are complete in every particular, there being a separate pattern

for every single piece of the dress. All orders filled promptly.

For ladies, give BUST measure in inches. For SKIRT pattern, give WAIST measure in inches. For misses, boys, girls or children, give both BREAST measure in inches and age in years. Order patterns by their numbers.

Satisfaction guaranteed or money refunded.

To get BUST and BREAST measure, put the tape-measure ALL of the way around the body, over the dress, close under the arms.

Special price of each pattern 10 cents.

Postage one cent EXTRA on skirt, tea-gown and other heavy patterns.

Address FARM AND FIRESIDE, Springfield, Ohio



No. 7616.—LADIES' WAIST. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



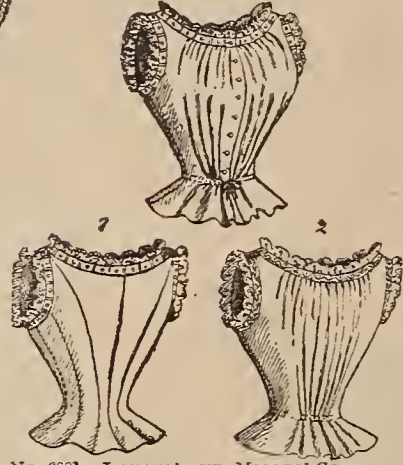
No. 7618.—MISSSES' WAIST. 10 cents. Sizes, 12, 14 and 16 years.
No. 7620.—MISSSES' SKIRT. 11 cents. Sizes, 12, 14 and 16 years.



No. 7493.—LADIES' SHIRT-WAIST, WITH FITTED LINING. 10 cents. Sizes, 32, 34, 36, 38, 40 and 42 inches bust.



No. 7501.—LADIES' BASQUE FOR HIGH OR LOW NECK. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 6881.—LADIES' AND MISSSES' CORSET-COVERS. 10 cents. Sizes, 32, 34, 36, 38, 40 and 42 inches bust, and 12, 14 and 16 years.



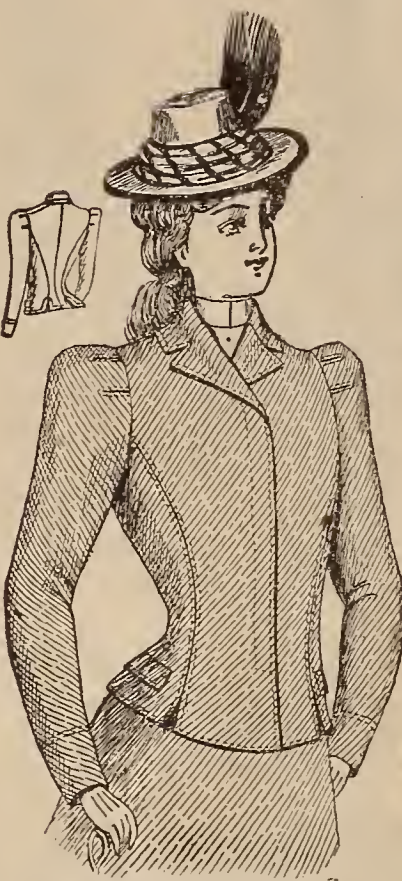
No. 7486.—LADIES' MILITARY SHIRT-WAIST. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.
No. 7485.—LADIES' SKIRT. 11 cents. Sizes, 22, 24, 26, 28 and 30 inches waist.



No. 7507.—GIRLS' COSTUME. 11 cents. Sizes, 4, 6, 8, 10 and 12 years.



No. 7594.—LADIES' SHIRT-WAIST. 10 cents. Sizes, 32, 34, 36, 38, 40 and 42 inches bust.



No. 7596.—MISSSES' JACKET, WITH DIP FRONT. 10 cents. Sizes, 12, 14 and 16 years.



No. 7430.—LADIES' HOUSE JACKET. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 7584.—LADIES' TUCKED SHIRT-WAIST. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



LADIES' AFTERNOON TOILET.
No. 7503.—BASQUE. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.
No. 7447.—SKIRT WITH GRADUATED FLOUNCE. 11 cents. Sizes, 22, 24, 26, 28 and 30 inches waist.



No. 7465.—LADIES' WAIST. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.
No. 7462.—LADIES' SKIRT. 11 cents. Sizes, 22, 24, 26, 28 and 30 inches waist.



No. 7622.—LADIES' ETON JACKET. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.
No. 7625.—LADIES' THREE-PIECE SKIRT. 10 cents. Sizes, 22, 24, 26, 28 and 30 inches waist.



No. 7611.—MISSSES' WAIST. 10 cents. Sizes, 12, 14 and 16 years.
No. 7613.—MISSSES' SKIRT. 11 cents. Sizes, 12, 14 and 16 years.



No. 7461.—BOYS' KILT DRESS. 10 cents. Sizes, 2 and 4 years.

Any three patterns given free for a club of TWO yearly subscribers to Farm and Fireside.

10 Magnificent Chrysanthemums

Premium No. 341

ALL LARGE-FLOWERING

Chrysanthemums are the most wonderful flowers for splendid beauty, for enormous size, for variety in colors and shapes and for easy culture that have ever been introduced into America. As pot-plants they are superb, and as flowers for the garden they are gorgeous beyond description. They grow perfectly everywhere and for every one—almost as easy to grow as a weed. Home florists who do not own a choice collection of Chrysanthemums are behind the times and are missing the supreme delight of true flower lovers.

The collection here offered is made up of large, double-flowering, Japanese Chrysanthemums, the direct offshoots of famous prize-winning varieties. This collection embraces all colors known to the Chrysanthemum family, and all shapes and forms, as incurved, recurved, twisted, whorled, ostrich-plumes, etc.; also early and late bloomers.

10 DIFFERENT COLORS

- One lemon-yellow, one golden yellow and one true yellow.
- One true clear pink, one deep pink with light and silvery shadings and one rose-pink with soft satin finish.
- One deep rich velvety crimson.
- One violet-rose with silky texture.
- One pure ivory-white and one white with creamy center.

At the right time to set them out, or on any date you may specify, the plants will be mailed to you.

FREE The set of Ten Chrysanthemums given free for a club of TWO yearly subscribers to Farm and Fireside.



In order to introduce their plants into the homes of the many thousands of flower-loving readers of FARM AND FIRESIDE, a firm of florists located here in our city agree to furnish us at cost price several thousand sets of their choicest Chrysanthemums for premium use. Neither we nor the florists make one cent of profit on the plants. All we want are the subscriptions and clubs, and the florists will be satisfied with the advertising they get. This explains how we can afford to offer such an extraordinarily good bargain. Guaranteed to arrive in good condition and give entire satisfaction or money refunded.

We will send Farm and Fireside one year and the Ten Chrysanthemums for 50 Cents

(When this offer is accepted the name may be counted in a club-raiser's club.)

Americans Now Need an Atlas of the World

The United States is now one of the great world powers. The papers are full of news from foreign countries which is of deep interest to Americans. To locate these points of interest and get an accurate understanding of the size, shape and relations of the various islands and countries, and other timely facts, figures and general information, every one should have a copy of the newly revised "People's Atlas of the World." It contains maps of Cuba, Porto Rico, Hawaii, or the Sandwich Islands, the Philippines, Alaska and the Klondike country, and all other islands and countries on the globe.

The New People's Atlas Contains 250 Maps and Illustrations

The New People's Atlas is truly

A GIGANTIC BARGAIN

It contains 140 pages (each page is 11 inches wide and 14 inches long) and over 250 large maps and illustrations. It should be in every home and school-room.

IT IS UP-TO-DATE IT IS COMPLETE
IT IS EDUCATIONAL IT IS CHEAP

It Gives the Population

OF EACH STATE AND TERRITORY,
OF ALL COUNTIES IN THE U. S.,
OF AMERICAN CITIES,

By the Last U. S. Census

The excellent maps of all the states and territories in the Union are all large, full-page, and a number of double-page maps to represent the most important states of our country. There are also double-page maps of Cuba and Alaska. All countries on the face of the earth are shown. Rivers and lakes are accurately located. All the large cities of the world, the important towns and most of the villages of the United States are given on the maps. It gives a classified list of all nations, with forms of government, geographical location, size and population.

There are special features relating to each state and to the United States. A general description of the world, with illustrations embellishing nearly every page. It is superior to any school geography.

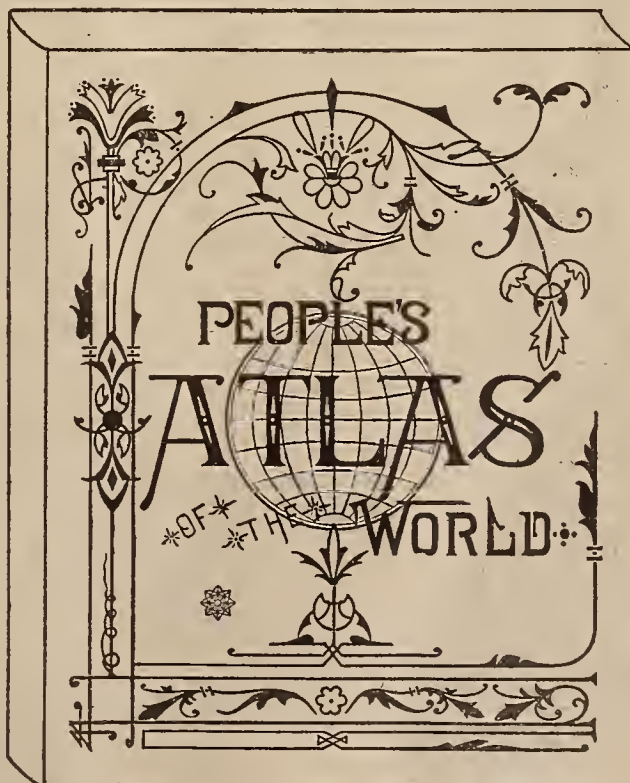
NOTE Thirty Cents is the clubbing price for yearly subscriptions to Farm and Fireside without a premium to the subscriber. But members of clubs may accept any of our premium offers and their names can be counted in clubs just the same. RENEWALS and new names, including a club-raiser's own subscription, can be counted in clubs.

Postage paid by us on above-named premiums.

For either premium on this page order by the number and address

FARM AND FIRESIDE, Springfield, Ohio

Premium No. 11



Miniature Cut of Atlas. Actual Size, Open, 14 by 22 Inches; Closed, 14 by 11 Inches.

In the New People's Atlas we are offering

THOUSANDS IN VALUE

FOR ALMOST NOTHING

It required years to gather the material for this Atlas. Over \$10,000.00 were expended for the engraving of maps and illustrations, for editorial labor, for type-setting and electro-plates, etc., before a single Atlas was printed. Had we printed only a few thousand, they would cost \$5.00 to \$10.00 a copy.

DESCRIPTION OF THE WORLD

The People's Atlas gives a general description of the physical features of the world; as, form, density, temperature, motion, the seasons, climatic conditions, winds and currents; distribution of land and water; races of people and their religions; a historical chapter on polar explorations; also the most complete list of nations ever published, giving their geographical location, area, population and forms of government.

We will send Farm and Fireside one year and the New People's Atlas for the Special Price of

40 CENTS

We will send the New People's Atlas FREE for a club of TWO yearly subscribers to Farm and Fireside.



A Weeder for \$5.00.

The New CHAMPION WEEDER

is an attachment for any one-horse cultivator. Cultivates the row and between the row at one operation. The weeder cultivates the row, kills all the weeds and grass, leaving a mulch of fine earth about the plants, while the cultivator takes care of the middles.

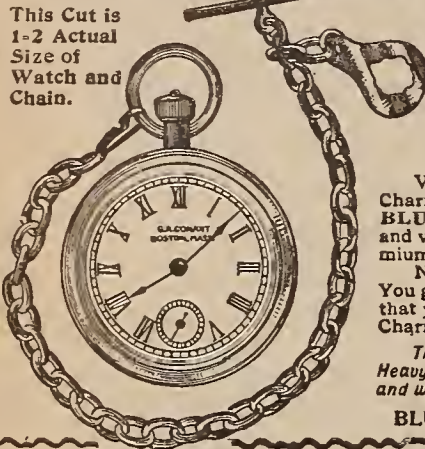
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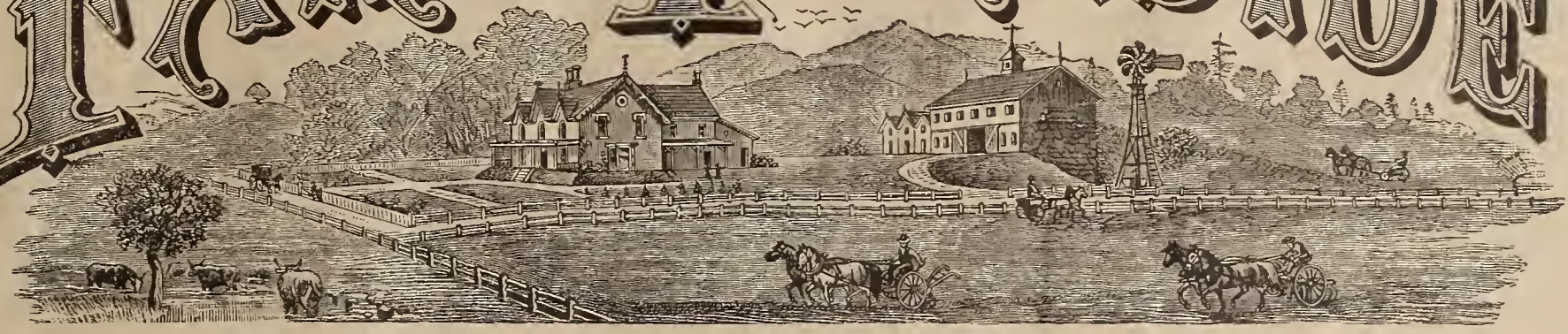
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FARMER'S RESIDENCE



VOL. XXII. NO. 15

EASTERN EDITION

MAY 1, 1899

Entered at the Post-office at Springfield, Ohio, as second-class mail matter

TERMS { 50 CENTS A YEAR
24 NUMBERS

CHINESE AGRICULTURE

BY WILLIAM N. BREWSTER
No. II.

THE Chinese are a distinctively agricultural people. There is great mineral wealth under the soil, but so far it has been little developed. They are natural traders, and under a decent government that did not tax trade to death by the odious "likin" stations every few miles to bleed the people, and with waters open to steam navigation, and with passable roads, they would soon develop a great commerce. But that is all in the future—we have good reason to hope in the immediate future. But now the people live off of the soil, making their own clothing largely as our great-grandmothers did, and eating the fruit of their own toil. In Hing-hua nearly all the produce of the soil is consumed here, except sugar, dried fruit and a few other things that may be classed among the luxuries.

These "horny-fisted sons of toil" are a sturdy lot, inured to hardships from childhood. In this part of the country very few of the farmers use opium, and enervating vices of all kinds are less common than in cities and in many other provinces. They have been compelled to fight for their rights all their life because of the weak and corrupt government under which they live. Village fights are very common. Their hard lot has some compensations, and not least among them are the development and independence of character and strong physique.

In this region the women work in the fields and carry loads as well as the men. The people are too poor to enjoy the luxury of bound feet. Only the comparatively well-to-do are able to support their women without field-work. This, of course, greatly improves the physical development of the farming class. In fact, there is a very great variety in the customs of the Chinese in different localities. I do not attempt to give universal descriptions here; I only give what is prevalent in the region of south China, where I have lived for eight years. Even here the customs widely differ in various localities. In the Sing-iu county nearly all women are bound-footed and are

is able to produce such excellent results with the tools he has used for ages. His plow-share is shaped like a battered wash-pan, he holds it with one plow-handle, and three inches is a good depth for the furrow. His harrow is a single row of iron prongs held into the soil by main strength while drawn by a bullock. His roller is better, made of a fluted stone. His hoe is big, heavy and invariably dull. As for drills, he has none. His planting is all done by hand.

His animals are proportionately ineffective. I have even seen a man drawing a plow while another held it. I am told that this is quite common in some parts of this province, because human strength is cheaper than animal. But this is very uncommon in Hing-hua. Horses are used to some extent for plowing. We would not dignify them with the name of that noble animal in America. They are little, bony, weak, underfed, unkept ponies that, like Mark Twain's famous Arabian steed, look as though they "only want to lean up against a fence and think." Cows and bullocks are used most commonly for plowing and harrowing; they are well kept and effective, only they are small and incapable of deep plowing or heavy work of any kind used singly, as they invariably are.

They have one strong domestic animal, the water-buffalo. These big, ugly beasts are



THE WATER-BUFFALO

or standing still. The dispute was finally settled by their agreeing to watch a tree beyond it. By careful sighting it was found that the animal was drawing the plow.

They are fond of wallowing in the water, and must have a pool deep enough to cover themselves all over, where they can thus refresh themselves several times a day, especially in hot weather, or they do not do well. They are not so numerous as cattle, and are more valuable. Their milk is more abundant and less rich, making a butter as white as lard, and tasteless. The first time I ever saw this butter was in Bombay, India, just after my arrival in the Orient. I innocently asked my host what it was. He greatly enjoyed the joke, being an Iowa boy, where they make butter. He said, "That is butter—pure butter. When the hay got rained on half a dozen times before we could get it into the barn, and there was nothing left of it but straw, my father used to say, 'Boys, this is hay, pure hay, nothing but hay; it has neither color, taste nor smell.' And this is butter—pure butter; it has neither color, taste nor smell."

But that does not depreciate the value of the water-buffalo in the Chinese market. The Chinese here never eat butter. They seem to know nothing of its uses. Nor do they milk their cows.

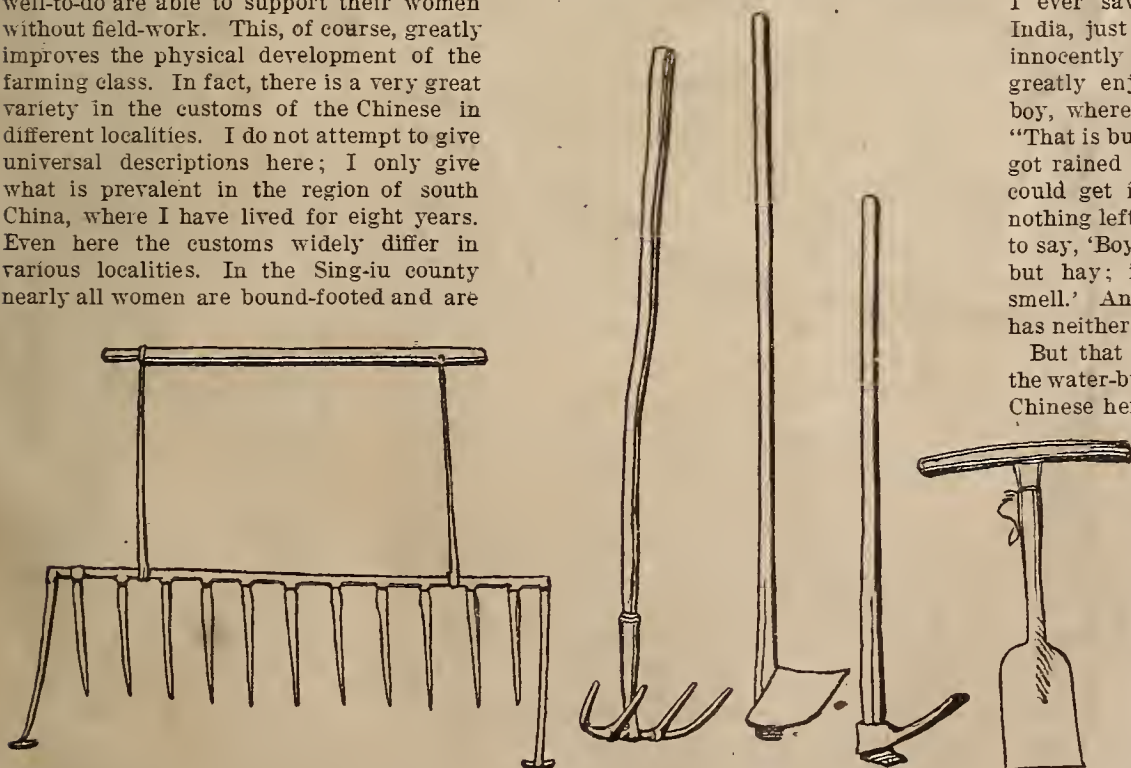
It is a singular fact that while the Chinese eat everything else in earth and sea fit and unfit for food, they seem to know nothing about the value of milk, the best of all food. No doubt one reason for this is the small quantity of milk produced by their cows, worked as they are at the plow. We have introduced it to some extent during the past few years, and a few buy it now for children and sick people; but it is very expensive, being ten cents a bottle (about two thirds of a quart), or five cents in gold. This is beyond the reach of people who gladly take regular work for ten cents (silver) a day. It is as expensive to them as cod-liver oil to Americans. Not many people in the United States would use milk if it cost a day's wages for a quart. To introduce a good breed of milk-cows here would be a great blessing to the people, and we hope to do it in time.

With these tools and animals the Chinese farmer, by patient toil, has made his country

like a garden. He has terraced the hills to the summit, he has shut out the sea by dikes, and redeemed flats into valuable fields. What his implements lack in utility he makes up in patience and skill. He knows the times and the seasons to perfection. No amount of labor is too much, for his very existence depends upon his crops.



In a recent lecture at Hong Kong, China, Mr. Granville Sharp said: "There may, therefore, be some who would be willing to know a little more of these people, amongst whom we have lived for forty years engaged in banking and commercial pursuits. We have served them and been served by them. We have bought and sold and bargained with them, day by day, through this long period, and have necessarily some acquaintance with them. It gives the writer much pleasure to testify to their high mental qualities, and also, in very many cases, their goodness of heart. . . . For all practical purposes China as a nation is nonexistent at the present time. She has neither cohesion nor character. She is decayed and utterly corrupt, and her government can only be purified by a fiery ordeal. The 'integrity of China' is entirely a misnomer. There is no such thing. It is, therefore, idle to dream, talk and write of its preservation. Neither is reinstatement, restoration or amendment possible. There is no foundation, there are no chief materials which might be employed. The people are unprepared, the rulers and literate are absolutely worthless. . . . The essential and wide distinction between the Chinese people and the Chinese government cannot be stated too forcibly; and this is one of the facts to be borne in mind in all discussions about China. We have some maxims which seems to contradict the possibility of this. If so, then it must be remembered that China is full, nay, is made up of contradictions and anomalies. The people are mostly honest, steady, dutiful and hard-working. Moore, the philanthropist, said he would not give much for a young man who could not, upon occasion, work sixteen hours out of twenty-four. The Chinese workman, if it please him, will do twenty hours. The officials, on the other hand, are abominably, incorrigibly, hopelessly slothful and corrupt."



FIELD TOOLS

very seldom seen in the fields. In the Po-ceng county the opposite conditions prevail.

It takes the globe-trotter correspondent or traveler to tell all about it. He goes out into the suburbs of some seaport town some afternoon, just before his steamer is to sail, and tells his innocent readers all about the way the Chinese everywhere cultivate the soil. I have been in China too long to generalize; it is not safe.

It is a high compliment to the skill and patience of the Chinese husbandman that he

very useful in plowing the rice-fields, for this is best done with the field flooded with two or three inches of water. These animals are very powerful, and could draw a good plow through a six-inch furrow if they had the plow. They take their time to it. By watching closely you can detect the difference between one in motion and one standing still. When Dr. A. B. Leonard was in China a few years ago he was taking a little excursion with a missionary. A friendly altercation arose between them as to whether a buffalo, some distance away, was moving

FARM AND FIRESIDE

PUBLISHED BY

MAST, CROWELL & KIRKPATRICK

OFFICES:

147 Nassau Street,
New York CitySpringfield,
Ohio204 Dearborn Street,
Chicago, Illinois

Subscriptions and all business letters may be addressed to "FARM AND FIRESIDE," at either one of the above-mentioned offices; letters for the Editor should be marked EDITOR.

TERMS OF SUBSCRIPTION

One Year - (24 Numbers) - 50 Cents
Six Months - (12 Numbers) - 30 Cents

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DR. S. A. KNAPP, who was sent by the United States Department of Agriculture to Japan, China and the Philippines, as an agricultural explorer, reports as follows on Japan and China:

"The perfection attained by Japanese fruits and seeds is due to very thorough cultivation and fertilizing. Their entire system of agriculture is slow, laborious and painstaking, but the results are marvelous in quality and quantity of product. Fertilizing the soil is laborious and expensive. There are practically no domestic animals in a large portion of the empire. Human excreta is the chief fertilizer. This is carefully preserved in cities and villages, transported upon men's shoulders or in boats to the fields, and, in a diluted form, used to water the plants. Green manures, grass, straw and fish are considerably used. Rice-straw is, however, too valuable to be thus employed. It is used for rice and coal sacks, for mats and rope, for manufacture of paper, and in numberless economic ways.

"The limited amount of arable land in Japan, only about one eighth of the entire area of the empire, makes it necessary to conserve and stimulate all of the productive energies of the soil available for cultivation. Hence the field crops are all managed upon garden methods. The seed for all the wheat, rice, rye and barley produced is first sown in highly fertilized beds and when the plant is of sufficient size it is transplanted into the fields, much like cabbages.

"When it is considered that there are three persons in Japan for every acre susceptible of cultivation it is plain that the home market is sufficient for all the home products of the empire. The population of Japan (exclusive of Formosa) in 1896 was officially given as 42,708,264, and the area cultivated in food products as 13,064,568 acres. All fear of competition from Japan along agricultural lines may be dismissed. On the contrary, it must become a large consumer of farm products drawn from the United States. The diffusion of knowledge and the introduction of new industries in Japan have had the effect of more than doubling the cost of labor in the last ten years, and, in proportion, of stimulating consumption by the common people. Future progress must be mainly made in the direction of manufactures. In such event the food for the opera-

tives, the cotton and other fiber material for the fabrics, the lumber and iron for the construction of the factories and much of the machinery will be drawn from the United States. This will tend to stimulate the prices of our farm products. The same general facts hold good for China. The opening of the Orient to commerce will act most beneficently upon our agricultural industries.

"The common impression that the people of Japan live mainly upon rice is disproved by the number of acres devoted to wheat, rye and beans; namely, 3,879,277 acres against 6,977,482 acres of rice. Large quantities of beans are imported annually from Corea, and of wheat-flour from the United States. Generally, at least one highly nitrogenous ration is provided daily for all classes.

"Industries that involve considerable labor in proportion to the amount of land required are well suited to the industrial conditions in Japan. Tea, silk and matting are examples. The number of families engaged in the production of tea was 762,634 in 1896. The manufacture of silk employed 660,409 families. Weaving is mostly done in the homes by women. Of the total number of operatives 1,042,866 employed in 1895 in the manufacture of silk 985,016 were women. The matting industry gives employment to 103,044 families. It is difficult to conceive how the factory system of the United States could be substituted generally for the home system prevailing in Japan without a social revolution. If successful, it must be exceedingly gradual.

"Of the fabrics, cotton and wool alone have made much progress under the factory system, and this is owing to the fact that they were not produced to any extent in the empire, and hence no home system of manufacture had to be established for them. The woolen-factory of Joseku Goto, the largest in the city of Tokio, is expanding at the rate of twenty-five per cent annually, but Dr. Knapp noted that the increase was exclusively in the number of hand looms, and called the attention of the foreman to that fact. He admitted it, but remarked that it had never been observed by a foreigner before. He explained that they paid for weaving by the yard and that operatives would do the work on hand looms at the same price as on power looms, saving to the proprietor considerable in first cost of looms and in the power to operate them.

"Dr. Knapp does not think Japanese girls handle power looms with the same skill exercised by American girls, while they are far more expert with hand looms. In several cotton-factories where two power looms were assigned to one operative he observed that one or the other was idle most of the time.

"The many helpful industries carried on at home by the Japanese with labor that otherwise would be idle is worthy of imitation.

"The principal agricultural products imported into Japan are wheat, flour, sugar, cotton, butter, cheese and meat. The annual value of these articles is at present between twenty-four and twenty-five million dollars in gold. Under favorable treaty regulations Japan will import from the United States nearly all her flour, butter, cheese and meat, three fourths of the raw cotton required, and from the Philippines nearly their entire surplus output of sugar.

"The butter and cheese market will be of comparatively slow growth in Japan, but will steadily improve if properly fostered.

"The great area, the large per cent of fertile lands and the enormous population of China stagger the observer on the threshold of investigation. Here, however, as in Japan, radical changes in agricultural methods or products must be made very slowly, if at all, because the food supply cannot be materially reduced or even changed with safety. Large areas devoted to fiber plants for the promotion of manufactures would be a dangerous invasion of the acres necessary for the food supply, and must be speedily followed by importations from the United States. Dr. Knapp reports that he was deeply impressed by the alert, industrious and frugal character of the Chinese."

MARCH was a hard month on wheat, and added much to the injury caused by a severe winter. Over a wide extent of the winter-wheat territory the crop has been seriously injured. Commenting on the outcome of the unfavorable conditions the Cincinnati "Price Current" says:

"Last year's winter-wheat crop was offi-

cially estimated at 380,000,000 bushels grown on 25,700,000 acres. This season's sown area has been officially estimated at 29,950,000 acres—implying sixteen per cent increase. The April condition last year was 86.7. Were the outcome of the crop this season to maintain the ratio of these comparative factors there should be shown an increase of about 16,000,000 bushels in production. But it is safe to assume that such results will not be reached, and that instead of the gain in area proving to more than balance the lowering in condition there will in fact be a large shortage in comparison with last year's production of winter wheat, which in our opinion is likely to be not less than ten per cent.

"The vitality of the wheat-plant may have been affected by the lower temperature of January and February, but the decisive injury to the plant has occurred since alternating freezing and thawing with excessive moisture overtook the plant—and the extent of injury has been unfolding with recent progress of the season. Few sections have escaped these conditions, although a large proportion of the area still has fairly good promise."

IN a recent number of the monthly summary of commerce and finance of the United States issued by the Treasury Department is an article on the Samoan islands from which the following extracts are taken: "The Samoan islands, to which recent events have attracted public attention, are located about 2,000 miles south and 300 miles west of the Hawaiian islands and 14 degrees south of the equator. They lie in an almost direct line between San Francisco and Australia, and slightly south of the direct steamship line connecting the Philippines with the proposed Panama or Nicaragua interoceanic canal. Their especial importance, therefore, lies more in their position as coaling and repair stations on these great highways of commerce rather than in their direct commercial value, their population being small and their imports and exports of comparatively little importance.

"The group consists of ten inhabited and two uninhabited islands, with an area of 1,700 square miles and an aggregate population, according to the latest estimates, of 36,000 people, of which something over 200 are British subjects, 125 Germans, 25 Americans, 25 French, 25 of other nationalities, while the remainder are natives of the Polynesian race. The bulk of the population is located in the three islands of Upolou, Savaii and Tutuila, the number in Upolou being 16,600, in Savaii 12,500, and in Tutuila 3,700. The islands are of volcanic origin, but fertile, producing coconuts, cotton, sugar and coffee; the most important, however, being coconuts, from which the 'copra' of commerce is obtained by drying the kernel of the coconut, the 'copra,' which is exported to Europe and the United States, being used in the manufacture of coconut-oil. The exportation of 'copra' from the islands in 1896 amounted to 12,565,909 pounds, valued at \$231,372. A considerable proportion of this was exported to the United States; a larger proportion, however, to Germany, whose citizens control its commerce through a trading company which has long been established there. The coconut and 'copra' production, however, varies greatly from year to year, owing to the fact that many of the coconut-trees have been destroyed in recent years between native factions, a single individual being able, by cutting out the crown of the tree, to permanently destroy in two minutes' time the fruit-bearing qualities of trees which require several years for their growth.

"The government of the Samoan islands had been from time immemorial under the two royal houses of Malietoa and Tupea, except on the island of Tutuila, which was governed by native chiefs. In 1873, at the suggestion of foreign residents, a house of nobles and a house of representatives were established, with Malietoa, Laupepa and the chief of the royal house of Tupea as joint kings. Subsequently Malietoa became sole king. In 1887 he was deposed by the German government upon the claim of unjust treatment of German subjects, who formed the bulk of the foreign population on the island, and was deported first to German New Guinea and then to the Cameroons, in Africa, and finally in 1888 to Hamburg, Tamesese, a native chief, being meantime proclaimed king by the Germans, though against the protests of the British and American consuls at Samoa. Mataafa, a near relative of Malietoa, made war upon Tamesese, and succeeded to the kingship.

"In 1889 a conference between the repre-

sentatives of the American, British and German governments was held in Berlin, at which a treaty was signed by the three powers guaranteeing the neutrality of the islands, in which the citizens of the three signatory powers would have equal rights of residence, trade and personal protection. They agreed to recognize the independence of the Samoan government and of the free rights of the natives to elect their chief or king and choose a form of government according to their own laws and customs. A supreme court was established, consisting of one judge, who is styled the chief justice of Samoa, and who is at present W. L. Chambers, an American, formerly a resident of the state of Alabama. To this court are referred: First, all civil suits concerning real property situated in Samoa; second, all civil suits between natives and foreigners or between foreigners of different nationalities; third, all crimes committed by natives against foreigners or committed by such foreigners as are not subject to any consular jurisdiction.

"The future alienation of lands was prohibited, with certain specified exemptions. The capital was located at Apia, the chief town of the group of islands, and a local administration provided for the municipal district of Apia. A commission was appointed to investigate titles to lands alleged to have been purchased from the natives, and this in 1894 completed its labors, confirming about 75,000 acres of land to Germans, 36,000 to British and 21,000 to Americans, though much of this land has since changed hands. Malietoa, who had been deposed, was restored as king in November, 1889, and continued as such until his death, which occurred August 22, 1898, when the consuls of three powers, with the chief justice as president, took charge of the administration pending the election of a successor. It is out of the election and recognition of this successor to King Malietoa, deceased, that the recent disagreements between the representatives of the three governments maintaining the joint protectorate over the islands have occurred."

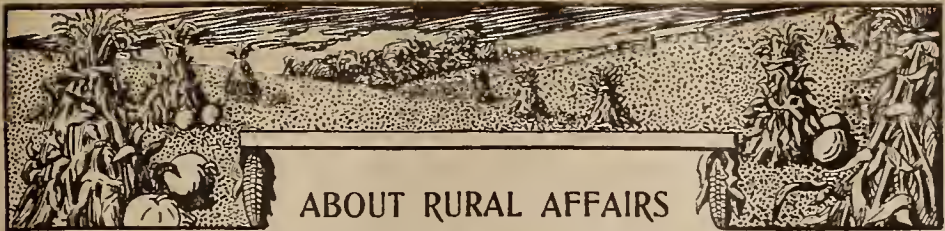
REVIEWING prices, "Bradstreet's" of April 15, 1899, says: "The general level of prices at the close of March is considerably higher than it has been for some years past. Compared with April 1, one year ago, for instance, the general level of values is about eight per cent higher, while as compared with October 1, 1896, which marked practically the low-water period of recent years, there is an advance of nearly forty per cent. The general level, indeed, may be said to be about what it was on July 1, 1893, a period when the full effect of the panic of that year had not yet begun to be evident on the prices of staples.

"The following table shows the positions of most staples when compared with October 1, 1896, which marked low water in staples of recent years:

APRIL 1, 1899, COMPARED WITH OCTOBER 1, 1896.

INCREASES		
Wheat	Rice	Copper
Corn	Beans	Lead
Oats	Potatoes	Tin, pig
Barley	Apples	Quicksilver
Rye	Cranberries	Southern coke
Flour	Peanuts	Linseed-oil
Beef, live	Currants	Castor-oil
Sheep, live	Hides	Olive-oil
Hogs, live	Hemlock leather	Turpentine
Horses	Union leather	Brick
Beef, carcasses	Oak leather	Lime
Hogs, carcasses	Wool, Ohio and Pa	Glass
Mutton, carcasses	Wool, Australian	Yellow Pine
Milk	Hemp	Spruce timber
Beef, family	Silk	Alum
Pork	Flax	Borax
Bacon	Printcloths	Nitric acid
Lard	Ginghams	Sulphuric acid
Butter	Eastern pig-iron	Alcohol
Cheese	Southern pig-iron	Opium
Mackerel	Bessemer pig-iron	Quinine
Codfish	Steel billets	Hops
Sugar	Tinplates	Rubber
Tea	Steel beams	Ground bone
Salt		
DECREASES		
Eggs	Iron ore	Tar
Hams	Steel rails	Hemlock timber
Coffee	Silver	Nails
Peas	Aluminum	Bicarbonate soda
Lemons	Anthracite coal	Carbolic acid
Raisins	Cannelville coke	Caustic soda
Cotton	Petroleum, crude	Tobacco
Jute	Petrol'm, refined	Hay
Standard sheet'g	Rosin	Cotton-seed
South'n sheetings		
UNCHANGED		
Bread	Bituminous coal	Phosphate, rock
Molasses	Cotton-seed oil	Paper

"Nearly three fourths of all the quotations, it will be seen, are higher, and the list of advances is a virtual roll-call of the country's products, except in the cases of raw cotton and its products, iron ore and steel rails, anthracite coal, petroleum and rosin and tar among naval stores. Almost uniform advances are to be noted in cereals, live animals and most of their products, all raw and manufactured textiles except cotton and jute, all classes of iron and steel except rails, which have undoubtedly been permanently lowered, most classes of building material, and a long list of drugs and chemicals."



ABOUT RURAL AFFAIRS

Seed-potatoes One of my correspondents in Ohio has recently asked me whether seed-potatoes grown in Michigan will do well in his locality. Years ago already I came to the conclusion, and I think I have stated repeatedly in these columns that success hinges far less on the latitude or longitude of the locality where the tubers were grown than on their state of preservation. In other words, I would rather plant seed-potatoes that were well kept, being plump and having dormant eyes or the short, stubby sprouts as we get them by exposing them to the light in a warm room than potatoes that are "northern grown" but already badly sprouted or badly wilted. The Ohio Experiment Station has just sent out a bulletin in which this view of the question is indorsed. It says: "The importance of good, sound, unsprouted potatoes for seed is a matter concerning which there is no difference of opinion, but how to secure such seed is a question upon which not all are agreed. Some would send North each year for new seed, because of the fact that they do not sprout so quickly in the spring. The Ohio Experiment Station has found that the locality where the seed was grown is a matter of less importance than the manner in which the seed is kept, which is equivalent to saying that the condition of the seed before planting determines what the crop is to be far more than the latitude where the seed was produced. When equally well preserved from sprouting, our own seed-potatoes have given as good results as those from either the North or South. Cold-storage Ohio seed-potatoes have given as good crops as those from Maine or North Carolina."

regions of Michigan. I believe that in my own vicinity the peach, plum and pear crop has suffered greatly, but it is too early to make any safe statement as to the amount of the injury done. I cannot find much injury to the trees themselves, and so I have gone to work trimming the trees in the usual manner, and shall do my part to secure what fruit can be saved, and to make it as good as I can. It is likely that all fruit that I can produce this year will find a good market. Professor L. R. Taft, of the Michigan State Experiment Station, has just issued a special bulletin about "frozen trees and their treatment." He advises severe pruning by cutting away all injured portions, if necessary down to the stump or roots. Where the ground was deeply covered with snow, young trees, although ruined above the snow-line, may have a space of uninjured wood above the bud. In that case, if the tree is over four years old, the top may be cut back and a sprout trained up from the stub. If the bud is killed, a sprout may be allowed to grow up from the stock and budded or grafted in the fall or next spring. Where the tips of branches are destroyed or seriously injured, while the trunk is still sound, the trees should be cut back severely, especially in the case of peach-trees. It seems to me that it is hardly necessary to try to give special rules for all these cases. The owner's own common sense and judgment should dictate the proper course to be followed in each case. So, also, with the outright removal of dead or dying trees.

Spraying for Fruit It has often been stated that the purpose of spraying trees with Bordeaux or any other mixture is to save fruit or to improve it in quality by preventing its disfigurement by insect or diseases more than to make unproductive trees fruitful. If the trees fail to make fruit-spurs or to set fruit, of course we have no chance to save fruit that is not there. But if the buds are there now, we may do a great deal of good, and possibly save a fruit crop, by spraying now with some lime whitewash, preferably the Bordeaux mixture. It has been found that a covering of whitewash in the early season, even on the dormant buds, will often protect the fruit-buds from the effects of a late frost, and also have a tendency to keep the buds from starting into growth longer than when such whitewash is not applied. This is due simply to the color effect. A white object is not affected by the heat or cold nearly as quickly as a dark-colored object. For this purpose alone a simple whitewash would do; but we had better add the copper sulphate in order to insure the freedom from disease of the buds and the early leafage, which in turn tends to promote the setting of fruit and its remaining. In short, it seems to me that this early spraying with our standard Bordeaux mixture is no more than a precaution dictated by ordinary prudence. I shall make the application to my orchard-trees just as soon as I am sure that the trees have a fair amount of uninjured fruit-buds.

Poultry Diseases Mr. F. E. Hedge, the poultryman of the North Carolina State Experiment Station, is about right when he says (in bulletin No. 152) that "unless the fowl first attacked is a valuable one, the hatchet will be of more service to you than the fowl when cured, as the chances of spreading the disease among other fowls and the time devoted to effect the cure will in nine cases out of ten be worth more than the fowl." Yet when a disease has been running among your poultry for some time you naturally want to find a way how to prevent or cure it. I have had a good deal of trouble with my Langshans for some years. A large proportion of my flock has died with a kind of diarrhea or cholera, and I have been at a loss to find cause and remedy. Mr. Hedge has had some trouble with the same disease. He reports about it as follows: "On the fifteenth of August, 1897, the feathers under the vent of a Langshan hen were seen to be covered with the discharge. She stood around in the shade, and refused to eat; was cooped in a cool place, and given one tablespoonful of sweet-oil, which cleansed her system thoroughly. On the evening of the sixteenth food was placed before her, which she failed to touch. On the seventeenth a small amount of cut bone was given, which

she ate, but seemed very weak. On the eighteenth fresh-cut clover was placed in her cage, and one pint of water to which had been added one teaspoonful of Jamaica ginger. The grass was eaten and a few sips of water were taken, but no other food. On the nineteenth finely cracked corn was given, after trying her on soft food to which had been added fifteen per cent of powdered chalk. A small quantity of corn was eaten. On the twentieth cut corn was added to a mixture of wheat, bran and corn-meal, of which she ate heartily, afterwards eating nicely at regular feeding hours; namely, morning and night. On the twenty-second her bowels were in normal condition, appetite good, and she was returned to the yard." A number of other cures are also reported, and Mr. Hedge comes to the conclusion that, if taken in time, a cleansing of the system by the use of either sweet-oil or calomel, followed by soft food, containing, say ten per cent of black pepper, will almost invariably effect a cure. I will try this treatment and hope that it will be as effective in my yard as represented by Mr. Hedge.

T. GREINER.

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SALIENT FARM NOTES

Apple-scab Last spring the trees in my orchard were full of bloom, and so far as I could see, the blossoms were healthy and the prospect was more than fair for a nice crop of fruit. I intended to spray the trees thoroughly while the calyx of the fruit still pointed upward, and had all necessary preparations made. When the time came to begin I went into the orchard to see how well the trees were set with fruit, and to my great surprise found that nearly all of it had disappeared. Close examination of the stems where the fruit had been showed that a silent but destructive enemy had robbed me of a fine prospect for a crop. The scab had done its work while I waited. It had attacked the stem of the fruits and cut off the supply of sap, and the young fruits had fallen. It was on the leaves on every part of the tree, and had cut hundreds of them off. All this had been done in a very few days—before I had noticed it. The orchard is young, and I supposed was almost free from scab—so free, in fact, that there was no danger of its injuring the fruit before I could spray it with Bordeaux mixture; but it seems that the atmospheric conditions were very favorable for a rapid spread of the scab, and the crop or prospective crop was ruined quickly.

Time to Spray If I had sprayed with copper sulphate just before the leaves opened, then with Bordeaux mixture as the buds were forming, and again just as most of the petals had fallen, I would have given the fungus such a severe check that I would have saved the young fruit and gathered a crop. Some orchardists are expressing the belief that spraying the tree before the leaves are out is a waste of time and material. I shall need more evidence on this point before I coincide with them. Last season's experience has satisfied me that apple-scab must be fought early and late if it is to be conquered. The most important time to spray is before the blossoms open and immediately after they are fallen. We must attack the disease before it attacks the fruit-stems if we want fruit. If we wait until the blossoms are off, with the intention of adding Paris green to the mixture and destroying the scab and the larva of the codling-moth at the same time, we will find that we are too late. To make doubly sure of checking the scab it would be well to spray as soon as the leaves are fairly open, again before the blossoms open, and again immediately after, adding an arsenite at the last spraying.

Generally we have two to four fair days after every hard rain, even in what may be termed a wet spring, and by watching our opportunities we can be sure that the fungicide will remain on the trees at least that length of time if we act promptly. If the spring is a dry one, and no rain whatever falls between the opening of the leaves and blossoming-time, one thorough spraying will be sufficient, because fungous diseases are not active in dry weather. Usually farmers have not much time to devote to the care of the orchard in spring, because other work presses, and for that reason I do not advise them to plant large orchards. A dozen trees well cared for will yield more fruit in ten years than a hundred that are neglected.

Small Model Orchard Farmers should not allow themselves to be led into planting many varieties. Every tree-agent that comes along has a so-called new variety which he claims is superior to

all others, while every nurseryman's catalogue describes and pictures one or more that has just been invented or discovered, and hundreds of farmers are induced to add to an orchard already larger than they can properly care for. Not one farmer in five hundred needs more than twenty-five apple-trees in his orchard. He can give that number first-class care. With a good spraying outfit he can spray them in an hour or so, examine them for borers or cut out the watersprouts, and not miss the time. I knew one farmer who had but six trees, and if anybody had apples he did, and generally he got about as many sound, perfect apples from those six trees as some others did from forty. The trees were well fertilized, sprayed, pruned, and not allowed to overbear. He was a model orchardist, and his little orchard was a model. It consisted of one Early Colton, one Duchess of Oldenburg, one Maiden Blush, one Grimes' Golden, one Wine-sap and one Ben Davis. I have heard many farmers complain because they could not grow such fine, smooth, perfect apples as their fathers used to. If they would give their trees the care this man did his they would have nothing to complain about.

Better Care of Orchard One thing becoming more certain every day is that we must give the orchard better care if we want apples. Insect pests and fungous diseases have multiplied to such an extent that it is impossible to grow perfect fruit, except in the most favorable seasons, unless we give the trees the best of care. This is why I contend that twenty to thirty trees are enough for any farmer's orchard. Apple-trees require attention at the busiest time in the year, and if the orchard is large the average farmer will neglect it because other things must be attended to. If the orchard is so small that he can spray it in an hour it will be sprayed. I know many farmers who have orchards of a hundred or more trees twelve to fifteen years old who have never gathered enough fruit to pay a fair rent on the land they occupy, and they never will, because they are too busy to give the trees the attention needed.

Attend to the Details of Farming The time is coming, in fact, it is already here, when farmers must give more attention to the smaller matters, the details, if they would be successful. There is no money in farming in the general haphazard manner that has been the rule heretofore. The odds and ends that save expenses and bring in the nickels will have to be looked after more closely. We can have as good apples, sound and perfect, as in the days of yore if we will give the trees the necessary attention and care. We can save many a hard-earned dollar by having a good garden—by growing on a small plot of land the various staple vegetables that go to make up the appetizing, healthful meals that hard-working men stand so much in need of. By giving the poultry better care and better quarters we can produce an abundance of the eggs that workers in the open air love so well, and hundreds of pounds of meat that is equal to the best mutton or tenderloin at any season of the year. I have always contended that on a farm of eighty acres or over one man can find profitable employment the year around "doing chores." One active man can employ all of his time in attending to the stock, the garden, orchard and poultry. These things are the details of farming and require a higher grade of skill and painstaking care than field-work. Generally these things are left to the care of the boys, who work as boys work, or to the housewife, who already has more than she can properly do. It is the attempt to do all these things with a rush, or while the teams are resting, or saddling them on the wife, that makes the miserable drudgery of farming. No man who is constantly worked to death can think clearly and plan intelligently. No woman who must work out of doors half her time can keep a house neat or cook well. Some great changes are needed along this line, and the sooner they are made the better.

FRED GRUNDY.

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GREEN MANURING.—Very sandy soils are more apt to show a beneficial effect than heavy soils from plowing under green crops, as compared with applications of fertilizers or manures, for the reason that in such soils fertilizer or manure leaches quickly away, whereas the humus afforded by the green crop is more entirely retained, itself adding to the body of the soil. Sandy soils, too, are nearly all deficient in vegetable mold, and green manure is the easiest and cheapest method of supplying this factor.

GUY E. MITCHELL.

Fruit-trees After the Winter Much injury to fruit-trees by the severe cold of the past winter is reported from various parts of the country, especially from the great fruit



FARM THEORY AND PRACTICE

SOUTHERN FIELD-PEAS.—The merits of the southern cow-pea have been given much notice in recent years. I was interested in Mr. Grundy's statements concerning the success of this southern plant in Illinois. Cow-peas take the place of clover in much of the South, and the northern boundary of the belt in which they thrive and can be used profitably in the improvement of soils cannot be defined definitely. They require a warm climate or a warm soil. On sandy land near Lake Erie they are successfully grown, and in an equally high latitude in sandy soils east of the Allegheny mountains, but in the Ohio and Mississippi valleys it is probable that little should be expected from southern peas north of the line mentioned by Mr. Grundy—latitude 39 degrees and 30 minutes. Some warm, sandy soils north of this line can be improved by their use, but cold soil will not make a profitable growth. I have been growing these peas in the latitude of Cincinnati for a number of years, and find them just the thing for land that fails to make a catch of clover or needs a quick-growing manurial crop. *

MAKING COW-PEA HAY.—There are difficulties about making the hay in the North. The vines do not ripen sufficiently for harvest until the beginning of fall, when nights have begun to grow long and the heat of the day has decreased. The stems are large, while the leaves soon cure. The result is that unusually good haying weather is needed for curing the crop in order that it may be handled satisfactorily. Analysis shows that there is more plant-food in the tops than in the roots, and there is probably no more satisfactory way than that of harvesting the peas with hogs, thus leaving vines and excrement for improvement of the land. *

SAVING THE SEED.—It is unnecessary to import seed from the South when a crop matures, as the seed may be hand-picked, threshed with flail and cleaned with a fanning-mill for less a bushel than southern seed costs, and I believe that northern-grown seed is the best for northern growers. It has been my experience for years that the labor bill may be kept down to fifty cents a bushel if active pickers are employed and the threshing be done in midwinter when labor is not expensive. Ten or eleven bushels of peas in the pod make one bushel of cleaned peas as a rule. An acre of good peas of the "black" variety will yield twelve to fifteen bushels of seed. I believe with Mr. Grundy that the area devoted to peas will increase in the latitude of Cincinnati and south of it as their merits become better known. They enrich the soil, leave it loose, produce rich feed for hogs and other stock, and grow quickly where clover fails. An application of acidulated rock usually helps the growth. *

THE PEA-FIELD DURING WINTER.—The land should not lie idle from the time the peas mature until spring, and there is nothing better for it than a seeding to rye. The rye may be broadcasted over the vines, and then covered somewhat by running a cutaway-harrow over the field. The rye, sheltered by the vines, will grow when rains come, even if not covered, and there is a sod of rye roots and tops to turn under with the vines in the spring. If the vines are cut for hay, the seeding to rye is all the easier and more needed, as the pea-roots rot rather quickly in the ground and do not furnish much coarse organic material for keeping the land loose the next summer. *

COAL ASHES.—Mr. Greiner, who always writes instructively, is certainly right in his estimate of the value of coal ashes. The statement is common that they have no value, but experience proves that they have a beneficial effect not indicated by the analysis. It is not new supply of plant-food that most soils so much need as favorable conditions for plant life, so that the food already in the soils may be used. The ashes help to create the favorable conditions, both by holding moisture and by permitting aeration of compact soils. I have seen marked effects from the use of bituminous coal ashes on potato land. And as a mulch for vines, as Mr. Greiner says, nothing is superior. The ashes hold the moisture, retard weed growth and repel many insects.

THE CABBAGE-BUG.—There is no greater menace to the cabbage-growing industry today than the harlequin cabbage-bug. This southern pest is moving northward steadily, and as it becomes acclimated it promises to extend its operations into states as far north as Michigan and New York. No effective way of fighting it has been found. Concerted efforts on the part of all growers might do the work, setting out cabbage stocks in the spring and attracting the bugs to them to be killed with kerosene, but such a plan is out of question. Some of our entomologists are undertaking to introduce a parasite that may help to hold it in check. Already this bug has ruined the cabbage business in some sections, and wherever introduced it is only a matter of a few years until great damage is done. It is a sap-sucker, and poisoning is not possible. The young are produced in great number, and the pest cannot be controlled by hand-picking. The outlook seems to me discouraging unless parasites are found effective. ***

THE FLEA-BEETLE.—Prof. Green, of the Ohio Experiment Station, says that this little fellow does far more damage to the potato crop than many suppose. It lessens the vitality of the vine by puncturing the leaves, and it exposes the raw tissue of the plant to fungous diseases and doubtless carries the germs. For this reason it pays to use arsenites in spraying even when there are no larvae of the Colorado beetle. The killing of these little pests, in those sections where the early blight is bad, is believed to be nearly as important as the destruction of the Colorado beetle. When using the Bordeaux mixture add the arsenite. DAVID. *

AN EXPERIMENT PLOT

A practice which should be more common among farmers is to devote a portion of the farm to testing new varieties of anything in the line of seeds or plants they are likely to grow in large quantities should they prove of value. For several years I have made it a part of the operations on the farm to obtain a small quantity of any field or garden seed which, from the catalogue descriptions, promised to be of value on my farm. So with small fruits, especially strawberries, and peaches, plums and cherries; also with many flowering shrubs and plants. While it is true that for certain reasons (which need not be given here) my experiments are on a larger scale than might be warranted with the average farmer, the principle is one that may be readily applied on any farm, large or small. In arranging for the experiment plot care should be taken that seed or plant has just the same, no better or worse, advantages that they would have in general cultivation in large quantities. Thus, with potatoes and root-crops, of which I test a great many, to each variety is given the same soil—that is, soil of equal fertility, according to my judgment—the same cultivation and the same general care. Of course, exceptions are made when it is plainly stated of the new variety that it succeeds best in a certain soil, but in all other respects the treatment is the same with each, and I am thus able to make a fair test between varieties.

My records show that in a certain three years among my experiments or tests with potatoes I found four varieties that were of no value on our soil as compared with some of the older sorts. Among strawberries I found a dozen which were valueless to me, two which were much better than anything I had been growing, and three which were old varieties introduced under new names. From this brief record the value of such tests will be readily seen. Now as to the cost. Much of the work was done between times—in the morning, a half hour at night and fifteen minutes at noon, just as the leisure moments offered. Of necessity considerable of the work was performed at stated intervals, but the use of insecticides, weeding, hoeing and the like was mainly done at odd times.

It is also a good plan to make tests of different methods of cultivation and the use of different fertilizers on a small scale in order to save mistakes in larger operations. Just one illustration of this point. A certain plan of growing sweet potatoes was once strongly advocated in this state (New Jersey), and the results shown were certainly surprising. I, in common with others, tried it and found that certain false statements had been deliberately made. The expense of discovery to me was nominal, but many of our farmers lost many dollars, as they pinned their faith wholly to the new (?) plan.

I followed the same idea of testing on a very small scale with poultry, and this was more expensive than other tests because of the number of yards and houses required for the several breeds, as the tests were made at about the same time with all. But I be-

lieve it paid in the long run, for after testing the several breeds for three years (I felt a fair test could not be made in less time), using Wyandottes, Houdans, Barred Plymouth Rocks, Brown and White Leghorns, Minorcas and Light Brahmas, I "know" just what breed or breeds, for I keep two, are suited to the conditions existing on the farm, and produce the eggs and the carcass our market demands. I am not, therefore, likely to be led away from my present allegiance to the breeds I have by tales of what other breeds have done and are doing. The other breeds are not for me, no matter how valuable they are for others.

For every dollar spent on these experiments either in time or money I honestly think I have gained ten dollars, not only in knowledge of breeds and varieties, but in being able to direct my energies to the work I know is profitable. If this is so in my case there is no good reason why it should not be so in the case of every farmer, gardener, fruit-grower or poultry-raiser who will conscientiously and thoroughly manage an experiment plot. GEORGE R. KNAPP. *

THE VELVET-BEAN

A successful rival of the well-known cow-pea of the South has now made its appearance, and will get a fair test this season in nearly every county in the cotton-growing states. It is known as the velvet-bean. It is supposed to have been introduced into southern Florida from Brazil, yet some are of the opinion that it was introduced years ago from the agricultural section of the patent office.

Practical experience, supplemented by careful chemical analyses, has demonstrated the fact that the value of the velvet-bean for feeding purposes, exclusive of the shells or pods, much exceeds that of the cow-pea. Protein is one of the most important constituents of food for live stock, and exists in a greater proportion in the bean than in the pea. Protein furnishes the materials for the lean flesh, blood, skin, muscles, tendons, nerves, hair, horns, wool, casein of milk, albumen of eggs, etc. Ground with the pod the velvet-bean makes a most excellent feed for milk-cows, producing fine, solid butter of an excellent flavor. When shelled and

amount of forage (vines and leaves) that it produces is astonishing as compared with the quantity yielded by the cow-pea.

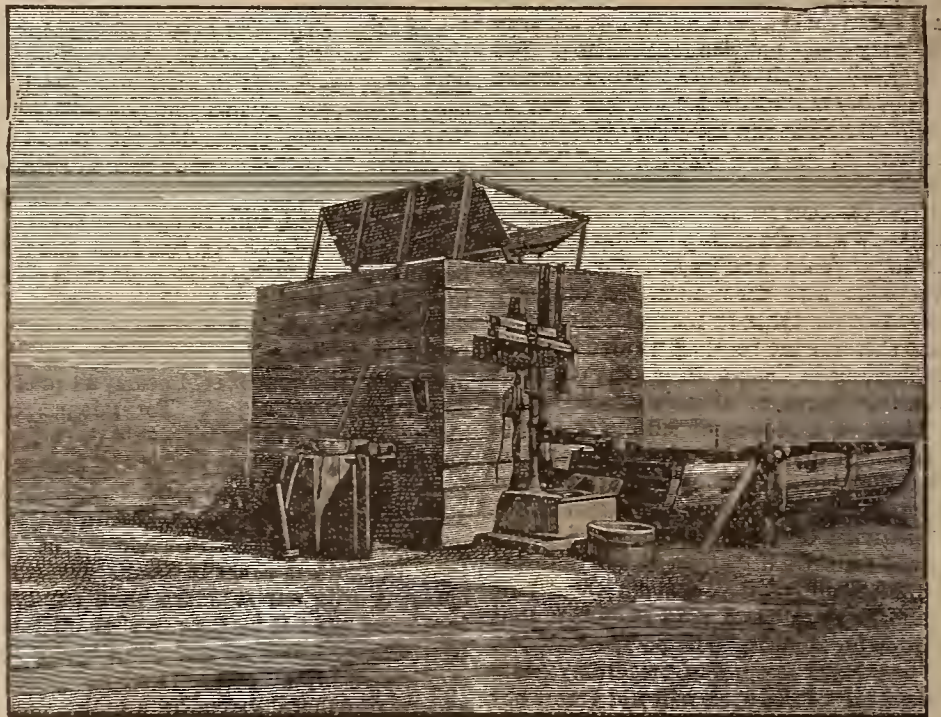
The vines usually come into full bloom in August, producing long clusters of somewhat large purple flowers, reminding one of the wistaria. The plant is therefore quite an ornamental one, which accounts for the first use of it in Florida, where it was grown as an ornamental plant on trellises for shading piazzas. The pods are very thick and leathery in appearance, and contain from three to five large, plump, fine-looking beans. These are irregularly colored with purplish and brown patches. The foliage is much like that of other beans. The estimated yield of beans an acre ranges from twenty to thirty bushels. Florida-grown seed can be obtained of the leading southern and eastern seed-houses. As yet, all the seed obtainable is that grown in Florida.

As it is not probable that the beans will ripen north of the cotton-growing states, the crop is likely to prove the most valuable when grown with the most rank-growing varieties of field-corn, so as to obtain the greatest number of tons an acre for ensilage purposes. This combination is a most desirable one for the purpose. Otherwise, the greatest profit is likely to accrue to farmers along the northern border of its successful growth, by using it as a crop to plow under for fertilizing purposes. W. M. K. *

WINDMILL IRRIGATION

The windmill is one of the most valuable farm assistants in an arid country. Its worth depends upon the amount of power generated by the wind and the storage capacity of reservoirs. There are several thousand mills in use throughout the twenty states comprising arid America, and many new ones are added every year. Where land must be irrigated, the water for irrigating an acre costs more for perpetual right than the area of soil it supplies with moisture. If wells can be sunk, and underground water brought to the surface by wind-power, the farmer owns an independent water supply valued at from \$25 to \$1,000 an acre.

In many sections of the West, and particularly in western Kansas, home-made



ground and used as feed for horses, the meal, if supplemented by the usual supply of forage, forms a rich and nutritious feed. As feed for stock, the vines when cured as hay are equally valuable.

The estimated yield of green forage an acre, when produced on land of only average fertility, ranges from ten to twelve tons. As the vines are slender, and consequently contain less moisture than those of the cow-pea, it is much more easily cured and converted into hay. The difficulty in making hay out of the vines of the cow-pea has measurably prevented its general use for hay-making purposes. Even on comparatively poor land the vines of the velvet-bean grow from ten to twenty feet in length, and on fairly good land a growth of from twenty-five to thirty feet is not unusual. Experience has shown that the velvet-bean is one of the most rapid and efficient nitrogen-gatherers known. The nitrogenous nodules on the roots are often as large as hazelnuts. These form in great abundance and are evidently the habitat of some form of nitrifying bacillus. To secure the best results the beans should be planted early in April, as the velvet-bean does not get its nitrogen-gathering capabilities in complete working order until late in the season. This bean has been very aptly termed a nitrogen-fertilizer factory. The

windmills are used to lift water from surface wells not over thirty feet in depth. These are frequently made by nailing heavy ducking cloth to the mill arms, or cross-beams, cut from hickory, elm or ash timber. Sometimes where the wind sweeps over the prairie at a great gale the mills are constructed near the surface. In this event a solid frame is made much like a large well-curbing, and the mill arms are partly protected from the hurricanes by hanging down into the framework. Many pioneer mills have been erected after this pattern, and at very little expense. Wells are often sunk near a river or creek bed, and underground tunnels made to connect the well with the stream. An ordinary twelve-foot mill will lift sufficient water during a season to irrigate from five to ten acres. The water is usually pumped from the underflow, or sheet rivers, and conveyed by troughs into small reservoirs. These ponds are made by using plows and scrapers, and the bottoms and sides are sometimes puddled with clay to prevent leaking. A flow of one miner's inch or twelve gallons a minute will create a reservoir sufficient for irrigating from one and one half to five acres. The ponds are used for fish and watering-places for stock. By having an overflow to keep the water in motion it is kept pure and makes a splendid ice-pond. JOEL SHUMAKER. *

NOTES FROM GARDEN AND FIELD

EARLY VEGETABLES.—Our “early vegetables,” at least of the new crop, this year will not be very early; that much seems sure. Here at the middle of April there is still some frost in the ground. Probably the season will come with a rush when it does come. But at best it will be many days, probably May, before we can hope to see the ground ready for plowing and sowing and planting. In spite of the continued wintry weather at this time, however, I find the pie-plants already starting and ready to push into leaf at the first approach of warm weather. This is always my earliest “garden fruit.” I use it freely for sauce and for pies during spring, up to strawberry-time. It is a good crop, and a profitable one, and I have enlarged my bed from year to year for some time. Many people who have plenty of land and chance still do without a plant of this vegetable on the place. They miss a good deal, I can tell you. It is so easy to start a bed, too. You may have a neighbor who has a pie-plant bed who would probably be glad to let you have a few plants free or for a small consideration. Take up a hill or a portion of several, leaving part in the ground to grow and spread again. Cut the hill in pieces, each piece with at least one good eye, and plant them, a piece in a place, four feet apart each way in very rich soil after this has been well broken up and fined. Keep the ground well stirred up until the plants are large enough to shade the entire surface. In the fall, and surely the following seasons, you will be able to enjoy this early garden fruit as well as I do.

VEGETABLE OYSTER.—My vegetable-oyster bed comes out better than I had hoped. Even such a trying winter as the one just past has not been able to injure these hardy plants. Such hardy things as plum and pear trees have suffered much in various parts of the country, but the oysters are sound as a dollar. After the long spell while fresh garden stuff was absent or scarce, an occasional mess of salsify comes very acceptable. Other people like it, too, and the surplus finds a ready market. Why is it that so good a vegetable, and one so easily wintered for earliest spring use, is so seldom found in farmers' gardens? It deserves a place in every home garden. I like deep, rich soil for it. Make the rows a foot or so apart, and sow the seed rather thinly. Most people sow it and leave the plants too thickly in the rows. I usually sow it about June 1st. When up, the hand-wheel hoe is run between the rows, and weeds and superfluous plants are removed promptly. One plant to the inch of row is all that should be allowed to remain. Extra winter protection need not be given.

SOME MUSHROOM NOTES.—There seems to be a diversity of opinion about the food value of mushrooms. It used to be stated on Professor Liebig's authority that edible fungi were about as rich in nutrients, especially protein, as beefsteak. Some of our experiment stations now claim that mushrooms are only equal to other vegetables such as cabbage in actual food value. But what of it? We know that mushrooms make a delicious and highly enjoyable dish. We eat cabbage and radishes and beets and all such succulent stuff which contains very little muscle-forming material, and believe that it is not only palatable, but also wholesome food. Why should we not eat mushrooms that have the rich taste of meat, even if they are not equal to it in nourishing power? I have had a good dish of them recently, and how every member of my family enjoys them! One of the boys had put some pieces of spawn into a bed on the greenhouse bench that was being prepared for planting lettuce, to be followed by a crop of Prizetaker onion-plants, and now, while the onion seedlings are still in the bed, the mushrooms are coming up quite thickly. At the same time I have made a failure of a bed prepared specially for raising a mushroom crop. The manure refused to heat, so that the spawn failed to grow.

The old orthodox way of growing mushrooms outdoors is by planting spawn in a rich old pasture. It is a good way, and usually successful if properly done. In May or June lift up with a spade here and there, in dry, rich spots, a triangle of sod, and place a piece of spawn, say as big as an egg, under it so that it will be two or three inches below the surface. Then drop the sod back

and tread it down firmly. The spawn will soon spread through the soil and sod, and if the season is favorable the mushrooms will come up freely in September and October. A new way of raising this crop during both spring and fall was suggested by the “American Florist.” The “Rural New Yorker” called my attention to it. A trench five feet wide and fourteen to sixteen inches deep, sloping toward the center, is dug in a well-drained spot. Mix together manure and soil, and form a bed in the trench high enough to be nine inches above the level when well tramped down. The shelter is formed with three by four hemlock, for a span roof, allowing the north-side rafter to overlap the south side eight inches. The lengthwise boards overlap like a shingle roof, to turn water. The north-side boards may be nailed fast and the south left movable, leaving in the south side six inches of space for ventilation at the top, where the overhanging rafters of the north keep rain out. For gathering the mushrooms, remove the south-side boards, to allow space to reach in freely. The only attention needed is a slight watering when the crop is being gathered, and a covering of litter or long manure to keep off sun and frost. During July and August the bed is allowed to become dry on the surface. Begin watering in September, to start the crop again. This looks to me like a most excellent plan, and I hope many of my friends will try it with me this spring.

CELERY-BLIGHT.—I am again asked what it is best to do for the celery-blight. I first try to keep the infection away from the seedlings by washing the seed (which might have been grown and gathered from blighted plants) in a weak solution of copper sulphate (bluestone). To subdue the blight after it has once made its appearance on the plants in the field I spray with the same solution. What exact strength of solution is best to use I do not know. You can make it so that the liquid shows a distinct blue color, and yet it is entirely safe to apply. I have used an ounce of the drug to a bucketful of water, but possibly even more might be used. It is a matter for further experiment. Spraying alone, however, is not always wholly effective. We must also protect the plants from too much exposure to heat and drought. Provide a little shade, and mulch the ground between the rows. Irrigate in very dry weather.

T. GREINER.

2

SPECIFIC FOR SAN JOSE SCALE

More than one authority states that there is practically no interest in California over the San Jose scale. The San Jose spray is considered a sovereign remedy. The formula for it is as follows: Unslaked lime, forty pounds; salt, fifteen pounds; sulphur, twenty pounds. Ten pounds of lime are first slaked and boiled with the sulphur in twenty gallons of water for three hours. The remaining lime and salt are then added, and the whole boiled an hour longer. Sufficient water is then added to bring the whole solution up to sixty gallons, which is strained before using.

GUY E. MITCHELL.

2

THREE POISON DROPS

BY M. G. KAINS

Oh, we're three sedative little poison drops,
Newly squirted from a spray-pump on the lea,
Where the piston forces and the agitator heaves,
Making waves akin to those upon the sea.
Oh, honey, we have cost a lot of money,
Won't you sip, sip, sip, sip, won't you sip us trust-ingly?
You will find us energetic, anesthetic and emetic,
We can help you have a dickens of a spree.

There were three hungry insects on an apple branch,
And each one ate like a hog—spelled P I G.
There was Mr. Crawling Canker-worm and Miss Bud-moth,
And Cigar-case Bearer with his house so wee.
No, honey, though you've cost a lot of money,
We won't sip, sip, sip, we won't sip you trust-ingly;
You might give us indigestion or a species of congestion
That might lead to fatal consequences—see?

But we laid low, we cunning poison drops,
In the place we'd been sent to by the spray-pump on the lea;
We were bound to do our duty, so we waited for our chance—
There are now three little graves beneath the tree.

Oh, farmer, though we cost a lot of money,
We will pay, pay, pay, we will pay you three times three.
You will find us energetic and in uowise sympathetic
In despatching bugs wherever they may be.

ORCHARD AND SMALL FRUITS

CONDUCTED BY SAMUEL B. GREEN

THE CRANBERRY

The cranberry-plant is a low trailing vine native to the swamps of many of the northern states and Canada. It is not found native, nor has it been successfully cultivated on the black soils of the Mississippi valley. It generally prefers peaty land, but will grow on almost any soil if the land is very moist. Wherever the cranberry is found growing naturally one may be sure that land near by is adapted to its culture. If no wild plants are growing near the supposed proper location it is a safe and good plan to plant a few rods as an experiment before spending much time or money on it, for this is the only way to be sure that the land is really fit for cranberries.

For best success with cranberries, drainage and flowage should be controlled. Yet there are many wild and cultivated bogs that have yielded very profitable crops for many years which had these advantages. The returns from natural cranberry bogs may often be greatly increased by a little judicious expenditure in taking out competing plants and in raising or lowering the water-level. The first step in preparing the land should be the destroying of all the vegetation growing on it. The method of doing this will vary according to circumstances. It can sometimes be done by flooding for a season and then clearing it, or by draining and then summer fallowing, and some large bogs have been prepared by skinning off all the surface turf by hand. Then, too, if it is to be flooded the land must be made perfectly level. It is a great advantage to have the surface covered with about four inches of clean sand, and it should be done even if considerable expense is necessary to accomplish it. The sand for this purpose should be free from clay or loam. Experience shows that this sand aids very much in cultivation and conduces to fruitfulness. Yet there are many very fruitful cranberry-beds on peat land that have never been sanded. If sand is not to be used the peat should be cleaned and the surface left exposed to the air for one year, or the surface will be apt to bake hard. Quite frequently the best time to apply the sand is in the winter after the ground freezes, or on the ice.

It is important to control the flowage for the following reasons: (1) Without a good water supply bogs often get very dry in periods of drought, and occasionally take fire and burn up; (2) if the water is kept over the plants in spring it will retard the flowering periods until danger of frost is past, and the water can be used to protect from early autumn frosts; (3) insect pests may be destroyed by flooding; (4) a covering of water is desirable for winter protection.

All that is required for good flowage is just enough water to cover the plants. It does no harm to have the plants freeze in the ice, but care must be taken that the ice does not raise or it will pull up the bed.

PLANTING.—In selecting plants great care should be used to get them from fruitful beds, as some plants are almost barren. There are many named kinds which vary greatly. Perhaps the Early Black is the kind most highly esteemed. The cranberry grows readily from cuttings, and the vines sometimes chopped up and the pieces sown broadcast and harrowed in, but the best way is probably to cut the pieces about ten inches long and plant three or four together, putting them about six inches deep. Sometimes rooted plants are used. The cuttings may be kept if kept under running water until wanted, even if not needed until autumn, and may be planted at any time in the season when the soil is moist; but spring planting is generally preferred. Before planting is begun the bed should be marked off at eighteen-inch intervals each way. In planting, a blunt-pointed dibber is used and the cuttings crowded into the ground with it at one operation. After planting the water should be raised enough to moisten the land, and if the water-level is kept about twelve inches from the surface moisture conditions will be about right.

Berries that ripen on the vines keep best, but where there is danger of early frost berries should be picked as soon as they commence to color. If severely frozen the berries are ruined, but they will stand a light frost. They are generally kept in a dry, cool place. They will also keep well if covered with cold water.

Cranberry cuttings can be obtained through most of the nurserymen and of cranberry-growers. They are often taken

from the best wild plants, but these are seldom so large as the cultivated sorts. The yield of cranberries to the acre varies very much and ranges from one hundred and fifty to nine hundred bushels an acre.

Perhaps the best book on this subject is “Cranberry Culture,” by J. J. White, published by Orange Judd Co., New York City, at \$1.25.

2

EXTRACTS FROM CORRESPONDENCE

NEW VARIETIES OF FRUIT.—P. W. N., Mokenlum Hill, Cal., writes: “One need not look to France or any other foreign country for a spineless gooseberry. Let those seeking new varieties hunt our own country. Often will they find them superior in flavor and size to those found in European countries. In 1859, crossing the plains on Landers route to the Pacific, I found just such as is inquired for—the largest gooseberries I ever saw. They grew south and east of Ft. Hall and north and east of what was called the Old Crater. They were pear-shaped and not a spine on berry or stock. Then I found yellow currants all along Snake river, up Raft river and on to City Rocks; in fact, the currants extended as far as Humboldt. In many places were red, black and yellow currants. These currants were large and of a fine flavor. If these fruits had been imported from some other country they would have brought fabulous prices.”

2

INQUIRIES ANSWERED

Diseased Apple-tree.—A. A., Eben, Ohio. I think the peculiar swellings on your apple-tree are due to a constitutional disease which has started this peculiar growth. It appears as if a large number of cells had formed into buds and then started into growth in much the same way that “burls” are formed on black ash and other trees. Just why it occurs I do not know. I do not think you have anything to fear from it.

Ants on Fruit-trees.—J. A. L., Pine Grove, Wis. Ants seldom injure plum-trees at the North, although I have known of their so doing. A wash of soft soap containing a little Paris green will prevent them doing further injury. If the ants' nests can be found they may be destroyed by pouring on gasoline and then setting it on fire or by putting about a teaspoonful of bisulphid of carbon on a small piece of cotton batting and putting it in their nest and covering at once with cloth or a sod. The vapor from the bisulphid of carbon is poison.

Chemical Fertilizer for Young Fruit-trees.—V. G. M., Kerneysville, W. Va., writes: “Please inform me if commercial fertilizer composed of phosphoric acid, nitrogen and potash applied to young fruit-trees (apples and pears) just set is an advantage or disadvantage.”

REPLY.—If the soil is in good condition nothing would be gained in applying the commercial fertilizer. If the soil is rather poor it might be well to apply a small quantity about the middle of June, after the trees have started nicely, but keep it away from the roots.

Plum-leaf Blight.—E. L. G., Glenwood Mills, Iowa. Your trees are affected by the plum-leaf blight, or leaf-rust. The remedy is preventive, and consists in the use of Bordeaux mixture as soon as the leaves appear, and other applications of it three or four times at intervals of about two weeks. If it is thought desirable to use some remedy after the fruit begins to color up, the carbonate of copper solution should be used, as it does not discolor the fruit; but if the Bordeaux mixture is used three or four times the benefits from it will be very apparent.

Grape-vine Not Bearing.—J. H., Shaw, Kan. I cannot understand why your grape-vine bore two years, and since then has failed to fruit, when others alongside have done so well. I think I would pinch the new growth after the fruit is set to check it a little if I was very anxious for fruit, but probably your best way is to dig it out and plant some productive kind. There is no such variety as Martha Washington that I can learn of among grapes, but there is a Lady Washington and a Martha. The wild grapes may be staminate (male) sorts, and never will produce fruit. I should think so from your description of them, and such plants often occur in our woods.

Red-cedar Seedlings.—H. C. A., Kenesaw, Neb. The best way I have found to raise red cedar from seed is to gather the berries and soak them over night in strong lye, and then rub them against a fine screen to get the flesh off. Sow the seed broadcast in rather dry, loose soil in the spring in a bed about four feet wide. On the approach of warm weather cover the bed with three inches of hay, and early in the spring of the following year you will find the seedlings coming up. Then rake off the hay and sprinkle on about a half inch of coarse sand. By this method I have been very successful. I have not found a screen over red cedar at all necessary. You will notice that it takes about a year for the seed to get started.

Scurfy Scale.—C. B., Corbett, Md. It is the scurfy scale that infests the bark of the twig you inclose. It is seldom, if ever, very injurious. I should have expected that strong lye would have taken them off if it had been carefully applied. I know it will yield to strong kerosene emulsion and to strong whale-oil soap-suds. For two years I have been experimenting in the use of clear kerosene for killing bark-scales, and find it the best thing I have ever used, and have had no injury from it where only just enough has been used to dampen the bark and it has not run. I have used it on very badly infested trees with absolutely perfect success, and when used in a fine spray it is also good. It cannot be used after the leaves appear.

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5 Bars Soap, .25	1 " Ammonia, .15
1/2 lb Pepper, .15	1/2 pt. Extract Lemon, .15
3 lb Coffee, .90	1 " Vanilla, .80
1/2 lb Whole Nutmeg, .35	1 lb Baking Powder, .40
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2 lb Tea, 1.40	
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MARKET GARDEN NOTES

ON my truck-farm my plan is to apply stable manure in the winter to the ground which I shall plant to celery in the spring. As one half of the field is in strawberries, I shall get the use of the manure as a mulch for the strawberries; then, after picking the berries in June, I can grow a crop of winter celery, and the manure will be on the ground to fertilize it. There seems to be a difference in manures and fertilizers in regard to their availability for different plants. Celery seems to assimilate plant-food much better when in the form of stable manure, and the vegetable matter in it furnishes the humus to the soil that enables it to retain moisture. I have always grown larger cabbages and cauliflowers from land that has been heavily manured than where commercial fertilizers alone were used. Last year I expended about the same amount of money for the highest grade of fertilizer that I could buy that I did for stable manure at one dollar a ton, and I am well satisfied, that counting the greater cost of applying the stable manure, the money paid for it was much better invested.

Sometimes in growing strawberries, where stable manure is liable to seed the beds to weeds it is more economical to use commercial fertilizers. I think I shall use no more stable manure on the strawberry-beds, except as a mulch for the plants when I expect to plow them up the next year. The field which is to be set to strawberries next spring I shall give a dressing of wood ashes, then scatter some commercial fertilizer along the rows after setting the plants.

I have some land that is failing to produce good crops, although it has been heavily manured for several years in succession. This land will be dressed with lime. I think this subject of so much importance in connection with garden culture that I will briefly quote from the writings of one who is an authority: "The indirect value of lime is perhaps more important than its direct action, because the majority of soils contain sufficient lime to meet the demands of the plants. Lime is of indirect value in unlocking the unavailable potash, phosphoric acid and nitrogen in the soil. Lime exerts a decided influence in the mechanical conditions of the soil, rendering heavy, compact soils looser in texture, and tending to bind particles of loose, leachy soils. Lime is also beneficial in furnishing conditions in the soil favorable to the activity of the micro-organisms, which convert the nitrogen of organic matter into nitrates that are readily assimilated by plants, decompose organic matter, and assist leguminous plants to assimilate free nitrogen from the air. Especially would we emphasize the value of lime as a dressing for land that has been continuously dosed with stable manure, and is showing signs of being less fertile than formerly."

Sometimes soils become acid; then lime should be used to correct this condition. Usually it is the most economical to use lime in the form of caustic or quicklime. This can be drawn to the field and placed in piles of fifty pounds each, covered with earth and allowed to slake, then it can be spread with a shovel; or ground lime can be purchased at a little more expense and spread directly from the wagon after plowing, then harrowing it in. Wood ashes contain from thirty to forty per cent of carbonate of lime, and if they can be cheaply obtained it sometimes pays to use them in place of quicklime, giving the land a heavy dressing with them, for potash and phosphoric acid are supplied to the soil with the lime.

One should learn to use a rotation of manures and fertilizers, and plan to have the crops also in a rotation that will adapt the fertilizers to the needs of the crop. The gardener can hardly dispense with stable manure for growing vegetables, but by alternating fruits with vegetables he can fertilize the fruits with the concentrated fertilizers rich in potash and phosphoric acid, and grow these vegetables, of which the leaf or stalk is the edible portion, with stable manure that is rich in nitrogen. I have a little vineyard of about two hundred vines, and the only fertilizer I use on this is wood ashes. So far the vines have been healthy, and bear crops of fine fruit. No one will make a mistake in applying potash to fruit, and for most of the fruits I would not buy nitrogen in a commercial fertilizer. For such small fruits as raspberries, blackberries, currants and grapes I would grow catch crops of crimson clover between the rows to plow under to furnish humus and nitrogen to the soil, and should not use the stable manure for these fruits, but would save it for the vegetables.

Several insecticides have been introduced quite recently which are not as yet in general use, but are well worthy the consideration of the practical farmer and fruit-grower. Paris green is undoubtedly used the most of all insecticides to-day. But very often it is impossible to readily secure the quantity desired, and it is also quite expensive. Both of these objections are met by a new compound of the arsenite of lime, invented by Dr. R. C. Kedzie, of the Michigan Agricultural College, and hence known as the "Kedzie mixture." It is a simple compound of the common white arsenic and sal-soda (carbonate of soda, or washing-soda). A "stock" solution is first made by boiling two pounds of arsenic and eight pounds of soda in two gallons of water for about fifteen minutes or until dissolved. Pour the clear solution into a two-gallon jug and label "poison-stock material for spraying mixture." When ready to spray, slake two pounds of lime, and thoroughly stir it and one pint of the "stock solution" into forty gallons of water. One pint of the "stock solution" is equivalent to four ounces of Paris green, and two gallons will thus be sufficient for eight hundred gallons of the spray, costing about three and one fourth cents a barrel. Dr. Kedzie says that this mixture can be combined with Bordeaux mixture as is Paris green. As far as tested this mixture has been most satisfactory.

INSECTICIDES FOR BITING INSECTS

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Very often it is desirable to spray delicate plants for an insect for which it is quite difficult to apply sufficient quantities of poison to prove fatal without burning the foliage. The "arsenite of lead," first devised and used by the Massachusetts commission in their fight against the gipsy-moth, is the spray to be used on such an occasion, as it may be applied at a strength of from three to fifteen pounds to one hundred gallons of water without injury to the foliage. It requires about three times as much of the poison, however, as Paris green. It is made by combining three parts of the arsenite of soda with seven parts of acetate of lead (white sugar of lead) in water. They combine into a white precipitate which is more easily kept in suspension than any of the other poisons. The chemicals should be pulverized before mixing. The acetate of lead may be bought wholesale at about seven and one fourth cents a pound, and the arsenite of soda at five cents a pound.

E. DWIGHT SANDERSON.

NOTES FROM CORRESPONDENCE

FROM INDIANA.—We have iron-water in our wells, and it is very good. We raise all kinds of cereals; corn, wheat and oats are our staple crop. Potatoes do fairly well. We raise cucumbers for pickles—about sixty thousand bushels every year. We plant the seed about the middle of June, and commence picking about the first of August, winding up in September, when frost comes. The yield is about one hundred and fifty bushels an acre, and the price fifty cents a bushel. Plymouth, Ind. J. T. R.

FROM MONTANA.—The smiling prairie along the Great Northern route contains many thousand acres of rich, sandy loam, producing immense crops of grain, such as wheat, oats, barley and rye. For producing vegetables of exceedingly fine quality, and great quantities of them, it cannot be excelled. In some parts irrigation is necessary, but when you once get the soil thoroughly subjected to the irrigating process it produces in such vast quantities that you are well compensated for all the cost and labor invested in making it suitable to cultivation. Great Falls, the grain-market center, is about thirty miles distant, while at Belt, a thriving town twelve miles distant, is a ready market for all other produce. A better place for the raising of cattle is difficult to find. The native grass is almost inexhaustible in supply, and affords excellent pasturage for the immense herds of cattle which rustle on the prairie nearly the entire year. Belt, Cascade county, Montana. C. H.

FROM GEORGIA.—We have as fine a country as I know of. Land is not as cheap as the pine land of Georgia, but is far more productive. Pendergrass is located near the center of Jackson county. We have mild winters and pleasant summers. The soil is a dark brownish gray, with a stiff red clay subsoil. Jackson is one of the best-watered counties in the state. Near the station is an inexhaustible bed of the finest clay for brick, tiling or jugware that the country affords. For the past thirty years the growing of cotton has been profitable enough to satisfy farmers, but the price has gone below the cost of production now, and our farmers are slow to take up anything else. Our soil will produce grain and grass, but we need some Northern men to set us a good example, as they are much more industrious and far-seeing than our Southern men. We need some men with manufacturing spirits. There is a good opening here for a cotton-mill, and we also need canning-factories, as there is an abundance of fruit grow here that goes to waste every year. Pendergrass, Ga. J. S. L.

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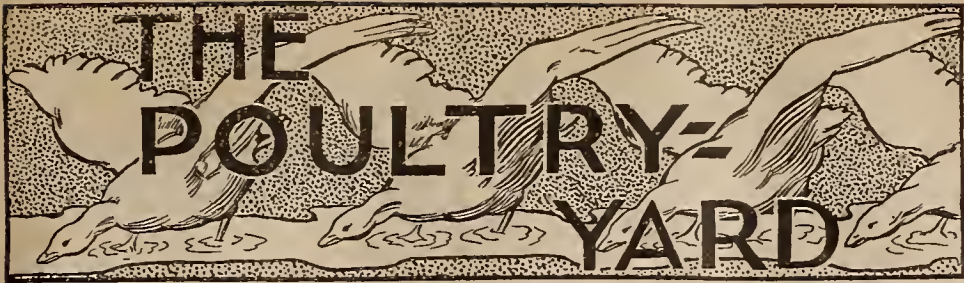
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WHITEWASHING IN WARM WEATHER

JUST as soon as the weather begins to be warm whitewash the poultry-house thoroughly, at top, ends and sides, and if necessary, upon the outside also. To do this with the least amount of labor it will be found best to use a "fountain pump or sprayer," forcing the whitewash through a nozzle, spraying everywhere and everything upon which you can direct a spray, as by so doing it will greatly assist in the eradication of vermin and at the same time disinfect the premises. With a "fountain pump" one can readily cover two hundred square yards of surface in an afternoon, and it is an implement which no farmer or poultryman should be without, as by its use the poultry-house, outbuildings, etc., can be quickly cleansed and purified with whitewash or other disinfectants. By sprinkling with whitewash every month during the summer, giving the roosts, floors and nests (first cleaning out well) a thorough sprinkling with coal-oil emulsion, or some of the commercial lice-killers, say every three or four weeks, the house will be entirely freed from the ravages of mites and the hens made more comfortable. Have the roosts elevated above the floor, with a platform beneath to catch the droppings, which should be removed at least once a week, and the platform should be sprinkled with dry sand or ashes. This method is greatly conducive to clean floors, as the manure so saved is valuable and otherwise would mostly be lost. Keep the floor covered with some kind of litter, such as hay, leaves or chaff (removing the same as often as becoming foul), which facilitates cleaning the floor.

BRONZE TURKEYS

In selecting a Bronze turkey there are certain points of plumage which indicate purity of breed. The color should be a rich, lustrous bronze, which should glisten in the sunlight like burnished gold. On the back each feather has a narrow black band, which extends across the end. The primary, or flight, feathers are black or dark brown penciled across with white or gray, and the secondaries are black or brown penciled with white or gray, the colors changing to a bronzy brown. The wing-bows are black, with a brilliant bronze or greenish luster; wing centers bronze, the feathers terminating with a wide, black band. The tail is black, and each feather is penciled with narrow bands of light brown, ending in a broad band with a wide edge of dull white or gray. The legs in the young are usually dark or black, changing with age to a dusky or pinkish purple.

WORK AND LICE

In the killing of lice one cannot do the work too often. Examine the fowls every week at least. Dust them well and thoroughly with insect-powder, rub a little grease on their heads, and burn several pounds of sulphur in the poultry-house. It may be laborious to try to keep lice down, but that is the way to get eggs, as the hens afflicted with lice will not lay, but become debilitated from loss of rest, and consequently are then more liable to disease.

THE GRASS PLOT

Any farmer who has a grass plot which he can give up to geese and ducks need not feed them an ounce of food after warm weather opens, and it will also answer for the hens, guineas and turkeys. In addition to the grass, seeds, insects and young weeds, the range promotes exercise, which is very important in maintaining the health of the flocks and promoting laying.

HOW MUCH TO FEED

One must feed according to the seasons. The warmer the weather the less food, and if the birds have a good range they may not require any assistance at all. There are some, however, who have their fowls in confinement, and they inquire "how much to feed." There is no rule, as individual fowls differ, but one method is to give in the morn-

ing only about one half as much as may be supposed the birds require. Then scatter millet-seed (about a teaspoonful) in the leaves or litter, so as to make the birds work by scratching. This will keep them warm, harden the flesh, and promote the appetite. At night give them all that they will eat. When each hen has had enough she will walk away from the food. When the last hen has finished her meal remove the food that is left over. Next weigh the food, give it to the hens, and when each hen has eaten, all having left the food, weigh that which remains. You will then know just how much a dozen hens may eat at a meal. The next morning give only one half as much as they ate, so as to have them somewhat hungry and induce them to scratch. This is the only way to know how much food to give.

MUSLIN RUNS FOR CHICKS

Muslin may be made to answer many purposes to poultrymen. It allows the heat of the sun to enter as readily as through glass, and does not radiate the heat away as rapidly as does glass. It is very cheap and may be rendered waterproof in many ways. Fresh bullock's blood and freshly slaked lime make an excellent waterproof paint for such purpose, but pure linseed-oil will probably answer nearly as well. If the muslin be drawn tightly in position it will turn the water without preparation. For covered runs to the chicken-coops, or for shelter during storms, or as protection against the heat during the middle of the day, it is the cheapest material that can be used.

PRICES OF BROILERS

After the chicks are six weeks old they should be forced in growth and made as fat as possible. This is recommended because it is difficult to fatten a chick, the food making more growth than fat. It will increase in weight, but if it is fat it brings a higher price. Of course, while broilers seldom appear fat, yet there is a difference noticeable in those that have been well fed compared with others not cared for, and as prices may range from twenty to thirty-five cents a pound it is well worth giving the chicks extra care.

REDUCING THE CHICKS

Sell the male chicks as soon as they are large enough, so as to give more air as well as gain more space on the roost. The young males will bring more when they are small than if kept until nearly grown. There is a loss in keeping cockerels too long. The time to sell them is when they are young, as they then bring more than the adult males, and cost much less.

NOTES FROM CORRESPONDENCE

PROFIT FOR ONE YEAR.—I have been a reader of your valuable paper for many years, and read it all with interest, and especially the poultry department, as I am much interested in poultry. I often see accounts of profits made of so and so many fowls, so I thought I would send in a record of my chicken profits also. I started last spring with 230 hens and pullets, consisting of White and Brown Leghorns and Buff Cochins grades. As I had no pure breeds I did not sell eggs for fancy prices. I sold eggs from January 1, 1898, to January 1, 1899, for \$82.23, prices ranging from seven to twenty cents a dozen; besides, I have no account of what I used for the table or sittings. I raised about 175 chicks, of which I sold 65 and used 22 for the table. For those I sold I realized \$15.23. Last spring I sent for two sittings of Silver Laced Wyandotte eggs, out of which I succeeded in raising 17 chickens—11 cockerels and 6 pullets—of which I am going to make a pen next spring. I also procured a trio of White Holland turkeys last fall, so I am going to breed only pure-bred fowls after this. If you think this worth publishing I will let the FARM AND FIRESIDE hear from me again. MRS. N. G. J. Blanchardville, Wis.

ABOUT BRONZE TURKEYS.—Observing that more or less mention has been made in FARM AND FIRESIDE during the past year of wild turkeys and the like, I think that a word concerning Bronze turkeys will not be out of place—the more so as one correspondent spoke of them in connection with the wild species. Truth to say, the Bronze turkey is in most respects superior to any other kind. Being hardier, it is more likely to live when very young, and when once grown up

it is beautiful and very large. The same amount of food, in fact, will produce in it as much as double the weight possible to be obtained in the ordinary turkey. For example, Mammoth Bronze male turkeys have been reared upon farms before now which, when only one year old, weighed forty pounds and over apiece—a weight exceeding that of the ordinary kinds, under like conditions, from twenty to twenty-five pounds. Indeed, it is no great trouble to get young Bronze turkeys to weigh from twenty to twenty-five pounds, and frequently as high as thirty-five pounds each, by Thanksgiving or Christmas, in which case they will command in the market a ready sale at prices also better than those paid for the smaller varieties. The most essential point, remember, is to get them started right. A turkey generally lays as many as twenty-five to thirty eggs before she thinks of incubating; therefore, the first dozen ought to be removed from her nest and set under a hen. Why? Because this leaves the turkey about what she can cover and hatch out nicely. Then when the little birds are hatched, each of them, as a precaution against vermin and the like, should be greased with some sweet cream on the top of its head, down its throat and under its wings. Next, a large, roomy, movable coop should be prepared, in which to keep the mother and her brood until the latter has grown and gained strength, for if allowed to roam at large with them she is liable to wander so far that her little ones will be worn out and unable to return with her. And on what should they be fed? Why, the best things at first are hard-boiled eggs mixed with bread-crumbs. Soon a change of diet is necessary, however, and then oatmeal and boiled rice should be given, and later on wheat. Young onions, if chopped fine, will also be greatly enjoyed, and as these are wholesome, the feeding of them, where practicable, should never be neglected. Still, it will not do to overfeed young turkeys (nor old ones, either, for that matter), since this might prove not only a drawback to their growth, but even in reducing the weight previously gained. Furthermore, the disarrangement sustained by the digestive organs, in their being overtaxed, might bring on some one of the many diseases which are so common among poultry, and which, if once firmly established, are very hard indeed to break up and successfully eradicate. Young turkeys, therefore, should be fed regularly, and as the food in their crops digests very quickly, they should be fed quite often and not too much at a time. When they get old enough they should be allowed to run at will, and not be restricted, except that they should roost indoors at night and not be left out in any cold, severe storms. The time of the winter markets once beginning to draw near, however, they should for several days prior to disposal be deprived of their daily expeditions, confined in narrow quarters, and there fed on purely fattening food; in other words, given no green material whatever, but rather an abundance of corn, wheat and similar flesh-producing eatables, care being exercised that none is left after meals to sour and spoil, for this is liable to take away the birds' appetites, and then next to nothing can be done with them. Feed, therefore, regularly and often, and to help fatten them give them more or less milk to drink. Thus dealt with the flesh produced will be more tender and juicy than could be obtained in any other way. This is a fact, for even the flesh of an old gobbler, if only fattened in this manner, will be found tender and juicy—nearly as much so as that of young birds. If you doubt it, just make the experiment some time for your own satisfaction. F. O. S. Cooperstown, N. Y.

INQUIRIES ANSWERED

Peafowl.—M. E., Ottawa, Ill., writes: "At what age do peafowls begin to lay and hatch?" REPLY:—Occasionally when they are two years old, but the best results are obtained the third year and thereafter.

White Plymouth Rock Chicks.—E. S. S., Elkhart, Ind., writes: "Some of my White Plymouth Rock chicks are nearly dark; does it indicate impurity?" REPLY:—It is not unusual for such to happen, and is regarded more as a desirable indication than otherwise, showing that they are true Plymouth Rocks. As they grow they gradually become entirely white.

Leghorns.—P. E. E., South Bend, Indiana, writes: "Can the combs of Leghorns be cut off without injury or impairing their laying qualities?" REPLY:—The combs may be removed when they are three months old by using a sharp knife and anointing with a strong solution of alum. It is a common practice with pit-games. Should flies attack the birds, anoint with a mixture of wood-tar and vaseline.

Young Goslings.—A. B. W., Bowen, Ill., writes: "My goslings are healthy until about three weeks old, when they get poor and begin to die. I feed them on raw meal and water. They do not get wet." REPLY:—Corn-meal and water is not sufficient. Give a variety, among which may be mentioned cooked potatoes thickened with bran, and a small proportion of animal meat. Scalded finely cut clover or green clover or grass may also be allowed. If on a grass plot they need only two meals a day. Keep them dry and away from ponds until well feathered, as very cold water will chill them.

Feather-pulling.—C. W., Arthur, Wis., writes: "My fowls pluck the feathers from the under part of the neck, and no doubt eat the feathers. They are not closely confined and otherwise are apparently healthy." REPLY:—It is an acquired vice, one hen beginning and teaching the others, the male being usually the first one attacked. There is no remedy but to separate them or to smear some disagreeable substance over the exposed parts. It is customary to kill those discovered at the work, as a flock addicted to the vice will be of but little service.

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QUERIES

READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two WEEKS before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Land for Onions.—O. L. S., Beatrice, Neb., writes: "I have a piece of land that has been used for a hog-yard for two years. Is it suitable for onions? How should the land be prepared? I have been advised by some to plow the land and by others to only cultivate shallow before sowing seed."

REPLY BY T. GREINER:—I see no reason why the land should not be in excellent condition for raising a crop of onions. By all means plow and get the surface in best possible condition for a seed-bed.

Fertilizer for Watermelons.—A. B. C., Stewartstown, Pa., writes: "What is the best fertilizer for watermelons and muskmelons, and how much?"

REPLY BY T. GREINER:—It depends on soil conditions. Stable manure is usually a safe thing if not applied in excessive doses for watermelons. If land needs an additional dressing, any of the good brands of "vegetable manures" sent out by our leading fertilizer houses make a safe application. Possibly superphosphate alone (dissolved South Carolina rock or bone) will give good results. Wood ashes are also all right. Don't be afraid to use these things quite liberally.

Kerosene Emulsion—Beets for Hens.—J. S. G., McHouth, Kan., writes: "Please give the right proportions of kerosene and soap to keep worms off cabbages.—What kind of beets, fed raw, are best to make hens lay?"

REPLY BY T. GREINER:—Make an emulsion of two gallons of kerosene-oil, one half pound of soap (whale-oil is best) and one gallon of rain-water. Take one part of this jelly-like mass to fifteen parts of water and apply in a forceful spray to the cabbages so as to reach every part where worms may be hidden.—Any kind of beet is good to make hens lay. Small ones, like Eclipse, Electric and other early table-beets, are usually more solid than large or overgrown ones. Ordinary mangel beets, cut fine and mixed with bran, etc., are the chief ration which I give to my hens.

VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Querists must be received at least two WEEKS before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to DR. H. J. DETMERS, 1315 Nell Avenue, Columbus, Ohio.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

Habitual Colic.—G. T., Lee, N. D. A horse that is suffering from habitual colic, or, in other words, has very frequent attacks of colic, will sooner or later die of that disease, and therefore is dear enough at any price.

Lost a Yearling.—E. J., Maywood, Neb. If your yearling was a heifer or a steer, the fatal disease undoubtedly was so-called blackleg (symptomatic anthrax). Please consult answer given under the heading, "blackleg," in FARM AND FIRESIDE of April 15th.

Probably a Case of Foreign Body Pneumonia.—P. V., Hebbardsville, Ohio. Your description points toward foreign body (mechanical) pneumonia as the cause of death. May be that some of the medicines you mention, but particularly the oil, has been poured into the lungs.

Garget.—A. W. S., Cresco, Ind. Have your cow milked oftener, three or even four times a day as long as she is at the height of milk production, and once every two hours if there are lumps of coagulated milk, until the milk is normal again, and then see to it that at each milking all the milk is milked out, and you will have no more trouble.

An Old Sore.—A. W. W., Oswego, Kansas. What you describe is not a case of botriomycosis, and I have no doubt that your veterinarian made a correct diagnosis. Let him treat it, and give him time; such old sores cannot be brought to healing over night. It can be brought to healing, but the formation of an ugly and permanent horny scar cannot be prevented, and that is probably what he meant.

Diseased When Born.—C. H., Columbus, Ohio. Your pigs evidently were diseased when born, or, in other words, had become diseased during their fetal existence. The exact nature of the disease cannot be determined from your description, but probably could have been ascertained by a carefully performed post-mortem examination. I would not be surprised if it should turn out to be a case of swine-plague, or so-called hog-cholera.

Paralysis of the Radial Nerve.—N. R. P., Muddy, Custer county, Mont. Your description indicates paralysis of the radial nerve. If this diagnosis is correct, the horse, which, of course, must be exempted from work, will get well in about six weeks if the paralysis is incomplete, and in about six to nine months if the same is complete. A medicinal treatment is unnecessary, but good care and voluntary exercise after some improvement has taken place will accelerate the final recovery.

Heaves.—D. E. H., Lock Spring, Ind. The term, "heaves," does not signify a definite disease, because various morbid changes in either the respiratory organs or in the organs of circulation, but most frequently in the former, can be productive of that condition known by the name of heaves. It may be defined as a chronic, feverless and incurable difficulty of breathing. Your horse will never be cured, but will probably show some improvement if you send him to a good pasture as soon as there is sufficient grass.

Periodical Ophthalmia.—R. H. A., Rockdale, Texas. What you describe is evidently a case of periodical ophthalmia (so-called moon-blindness), and incurable. As a rule new attacks will make their appearance until the eyesight is destroyed. In many cases the disease remains limited to one eye, but very often, as is the case in your mare, first one eye will be attacked and afterward the other, and the attacks will recur at irregular periods until the sight of both eyes, first of one and then of the other, is destroyed.

Cystworms—Diarrhea in Calves.—T. M. E., Atkinson, Neb. The clusters you found on the intestines of your hog undoubtedly are cystworms, but your description is not exact enough to determine from it the kind or species. It may have been the species known as *Cysticercus tenuicollis*, which constitutes the larva of a tapeworm occurring in dogs and wolves. All the various cystworms are the larvae of some tapeworm. The cystworm most frequently met with in hogs is *Cysticercus cellulosa*, the larva of *Taenia solium*, a tapeworm occurring in human beings; but this cystworm has its seat in the cellular tissues, between the muscular fibers, consequently the one you found must be another one.—As to the diarrhea of calves consult issue of March 1st and answer given to G. M. O., Onida, S. D., in this issue.

Itching in Mane and Tail.—G. S., Troy, Ind. Itching in mane and tail of horses may have various and different causes; for instance, a disease of the single hair, caused by microscopic fungi, the presence of horse-lice, or if chickens are allowed access to the stable or to roost in the same, of chicken-lice; further, accumulations of epidermis scales and dirt in mane and tail, in consequence of neglected grooming. If any of the three last-named causes produces the itching and the tendency to rub, the remedy consists in the removal of the cause, and if you find that the hairs present an abnormal appearance at their roots, and show a great tendency to break just above the skin, it is pretty safe to conclude that a diseased condition of the hair constitutes the cause. In that case you may rub in at the roots of the hair of the mane and tail first a little gray mercurial ointment, then next day wash them clean with soap, warm water and a good brush, and after that give them once a day a good wash with a five-per-cent solution of creolin in water, until all the rubbing and itching ceases.

Diarrhea in Calves.—G. M. O., Onida, S. D. Although your cows may not be subjected to all the conditions enumerated in the issue of March 1st, which rarely happens in any case, it does not follow that they are not subjected to some producing the same result; namely, an unhealthy condition of the milk fed to or sucked by the calves. The immediate cause of the diarrhea of calves, at any rate in most cases, is milk possessing an abnormal tendency to fermentation, and milk overrich in nitrogenous compounds. Such milk is obtained if, for instance, cows, though not subject to any of the conditions enumerated March 1st, are kept over night in a corral, are milked or sucked by the calves and let out to roam at large at their will bright and early in the morning, and then come home and are corralled with a bag full of overheated milk late in the evening, when calves, having been shut up all day and have become very hungry, are let loose to suck the cows, and in a short time fill themselves up with all the overheated milk they can stow away. In such a case the milk is not only overheated, but also very rich in nitrogenous compounds, partially even composed of products of waste, because as soon as the udder becomes filled an absorption of the fluid constituents of milk will begin and products of waste will be deposited. The remedy in such a case consists in more frequent milking, or where that cannot be done, in feeding the calves during the day and then in milking out at least half of the milk the cows carry home in their udders before the calves are allowed access. There are some other possible causes, but want of space forbids to dwell on every remote possibility. If more frequent milking is too inconvenient, the only remedy would be to keep only such cows as will not produce any more milk than the calf absolutely requires—purebred Texans, for instance.

Fistulas.—A. W. J., Florence, Mont. The term "fistula" is applied to any deep, narrow, chronic and usually more or less callous abscess, from which, for one reason or another, pus and exudates cannot be freely and fully discharged, but remain within at some part, usually the bottom or a pocket which is lower than the external opening, and do not flow off until the whole fistulous canal becomes filled up to overflowing. Pus and exudates, which cannot escape, therefore constantly irritate and permeate the walls of the abscess, and not seldom work their way deeper

down into the tissues, and thereby not only prevent a healing and excite the walls of the abscess to an increased production of exudates and pus, but also constantly increase the depth and the complications of the fistulous canal. From this will proceed that the first and most indispensable thing in successfully treating a fistula must be to secure a free and perfect discharge of every particle of pus or exudate as soon as it is produced, either by splitting open the whole fistulous canal clear to the bottom or by procuring a lower opening, lower than the deepest recess of the fistula, through which every part of the latter can be perfectly drained. That this was not done in your cases is the reason why your veterinarian, in spite of his heroic treatment, did not succeed in bringing the fistulas of your horses to healing. If a lower opening is made, as is often advisable in fistulas situated on the withers, I have found it a good plan to draw through the whole fistulous canal, from end to end, a small, perforated rubber tube for drainage, and then to inject the fluids applied to destroy the callous walls of the fistula and to disinfect its whole interior surface through the tube. The latter, of course, must be kept open and clean, and its use cannot be dispensed with until the callous walls of the fistula have been destroyed and until the inner surface has been well disinfected and in every respect resembles a fresh wound. As soon as this has been accomplished the tube can be withdrawn, and then a simple aseptic treatment and strict cleanliness will effect a healing within a few days. It is impossible to confer any benefit by entering into details, because no two fistulas are exactly alike and do not require precisely the same treatment. Therefore I advise you to intrust your veterinarian with the execution of these general directions. I will yet say that for destroying the callous walls of the fistulous canal, and for disinfecting the same, a concentrated solution of sulphate of copper, one to four, injected twice a day for a few days in succession, will answer in nearly every case. Its use may then be followed by a weak solution of creolin in water, just antiseptic enough to prevent a reinfection. At any rate the last injections should be made from below upward.

Repetition of a Prolapsus of the Uterus in a Cow.—R. P., Union Grove, Mo. In order to effect a successful repetition of a prolapsed uterus the operator needs three or four assistants, and must complete the necessary preparations before he attempts to effect the repetition. The preparations must be as follows: 1. A board three and one half to four feet long and twelve to fourteen inches wide, and a clean and large towel. 2. A bucketful of warm water of the temperature of the blood, or about one hundred degrees Fahrenheit, and a dipper. 3. If the cow is in the stable and lying down, several tightly bound bundles of straw of convenient size. The board and the clean towel spread over it have to be passed beneath the prolapsed uterus, and this done, two assistants have to take hold of it, one at each end, and raise the uterus to the level of the vulva, or even a trifle higher, and a third assistant has to pour some of the warm water over the often swelled, congested or inflamed and not seldom brittle uterus for the purpose of washing off the dirt and at the same time making the tissues softer and more pliable. Meanwhile the operator peels the frequently yet adhering afterbirth from the cotyledons, and this done, gently washes and manipulates the uterus until it is perfectly clean and sufficiently pliable. After this has been accomplished, a fourth assistant must be at hand with the bundles of straw, and the cow is urged to rise. Then as soon as the cow rises upon her hind feet the straw bundles are shoved under the hind quarters so that the cow when getting down again, which, as a rule, she will do immediately or very soon, will lie with her hind quarters considerably higher than with the fore quarters. That this is of the greatest advantage will not need any explanation. If the cow should not lie down again, but remain standing with her hind feet between the bundles of straw, a hole may be dug where she stands with her fore feet. It frequently happens that the intestines have passed into the prolapsed uterus, which would make futile any effort of a repetition. If this is the case, the assistants who hold the board have to raise it a little higher as soon as the cow is in a proper position, and then a little manipulation of the operator will suffice to make the intestines slip back into the abdominal cavity. This accomplished, the operator, while the assistant who has the warm water constantly pours some of it with his dipper over the uterus and the hands of the operator, begins his work with both his closed hands—the thumbs between palm and fingers—to work in first those parts of the prolapsed uterus which have come out last, consequently at the border of the vulva with one hand on the right and the other on the left side, or with one above and the other below, as may be deemed best, but always on opposite sides, until not more of the prolapsed uterus than, say of the size of a small head, is protruding, when that may be pushed in from the center. This done, the arm of the operator has to follow inside, and then the latter, by spreading his hand and by gentle manipulation, will find it not at all difficult to restore the uterus to its proper position. If all the preliminary operations are well attended to, the operation of effecting a repetition is seldom difficult. A repetition, however, will do no good unless every particle of the afterbirth has been carefully removed and the whole uterus has been well cleaned before the same is put back in its place, for if this is neglected the cow will work until it is out again. If one bucketful of warm water is not enough two or three should be used. After a repetition has been successfully effected, and no mistakes have been made, the cow as a rule will make no further attempts to press it out again, but to be on the safe side it is advisable to keep her standing considerably higher behind than in front, and to closely watch her for several hours. Only in some cases it will be necessary to apply a truss. How this is done I will describe at some future time, for at present space will not permit.

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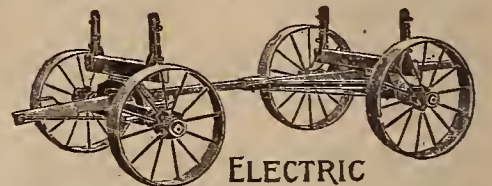
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OUR SUNDAY AFTERNOON

I SAVED MY LIFE

I kept my money to insure me ease;
I saved my strength for length of days;
I shunned the sad
To keep me glad
And won some heartless praise.

My brother perished for my surplus bread;
My feeble sister fainted by the way;
As proud I strode
Along the road,
"I'm safe," I used to say.

Money has not secured me ease;
There is no joy in length of days.
Would I had fed,
Would I had led
The weak in their hard ways!
—Maria A. Marshall, in the "Independent."

HONORING ONE'S PARENTS

Because you have been a little better educated than were your father and mother, don't imagine that you know it all. They may have more native intelligence than you, and more knowledge, through life's hard experiences, than you can ever possess. At any rate, all that you have in the way of learning you owe to their self-denial and to their determination that you should have better opportunities than they had. Your ingratitude is made glaringly apparent when you address them in terms in which your scorn of what you consider their shortcomings is only slightly veiled. And when you go farther and refer to them in derogatory terms to your acquaintances you are far from being a gentleman.

No matter how lacking in worldly polish your parents may be, they are deserving of your kind consideration at all times and in all places. The human diamond in the rough is still a diamond, and no doubt in heaven will shine with greater luster than many who have dazzled by their false brilliancy on earth.

The young fellow full of life and energy is apt to be hard and unfeeling, and he needs the constant restraint of the practices of his religion to make him humane. When he is inclined to ignore the reverence that he owes his father, let him not forget that he may one day be a father himself, and before he speaks of his good mother as the "old woman," let him realize that his wife may one day be a mother. As he would like his own son to be, let him be himself.

THE SECRET OF HAPPINESS

THOMAS JEFFERSON once wrote the following excellent little piece of advice:

"Harmony in the married state is the first thing to be striven for. Nothing can preserve the affections uninterrupted but firm resolution never to differ in will and a determination in each to consider the love of the other of more value than any object whatever on which the wish had been fixed. How light, in fact, is the sacrifice of any other wish when weighed against the affections of one with whom we are to pass our whole life. And no opposition in a single instance will hardly in itself produce alienation, yet every one has his pouch into which all these little oppositions are put, and while this is filling, the alienation is insensibly going on, and when filled it is complete. It would puzzle either to say why, because no one difference of opinion has been marked enough to produce to a serious effect by itself. But he or she finds his or her affections wearied out by a constant stream of little checks and obstacles.

"Other sources of discontent, very common indeed, are the little cross purposes of husband and wife in common conversation; a disposition in either to criticize and question whatever the other says; a desire to always demonstrate and make him feel himself in the wrong, especially in sympathy. Nothing is so goading on the part of either. Much better, therefore, if our companion views a thing in a light different from what we do, to leave him in quiet possession of his view. What is the use of rectifying him if the thing be unimportant? And if important, let it pass for the present and wait for a softer moment and more conciliatory occasion of revising the subject together. It is wonderful how many persons are rendered unhappy by inattention to these simple rules of prudence."

CELLARS AND HEALTH

In towns and in the country alike it is the dark corners, the neglected and little-used places in a house which most frequently contribute to its unhealthfulness, and in ways which are the more insidious because so often unsuspected. In this respect the cellars of many houses have much to answer for, for as a rule they are dark and damp, with no direct rays from the sun to kill the gases which always seek these low levels, and no ventilation to disperse them, even where the cellars themselves are not made the repositories of cast-off rubbish and vegetable refuse. The warning, therefore, cannot be too often given to look to it that the cellar is not neglected. Its ceiling and walls should be plastered and whitewashed where possible, to keep them dry and clean, and the occupants should prevent their cellars from becoming places where rubbish may be left. The floors should be well paved or cemented to keep out emanations from the soil, and, where practicable, they should be ventilated by keeping open, in dry weather, windows or doors communicating with the outside air. They act slowly but none the less surely. Frequently they are not noticed at all, although damp and moldy cellars have undoubtedly done much to undermine the health of many families. This cellar air, taken up through the rooms of a house gradually and in small doses at a time, produces an upward current every time the cellar door is opened, and neglect in regard to this matter is sure to entail serious consequences, because the real reason is so often overlooked.

THE POWER OF LOVE

There are but two words that we need to know, "love" and "Christ," and this will make our way for us to all the blessedness of eternity.

About seven hundred years ago there was a man named Gilbert Becket, who in his early manhood was a soldier in the Crusades. He was taken prisoner and became a slave of a Saracen prince. He obtained the confidence of his master, and won the love of his daughter. After some time he effected his escape. The lady with her loving heart followed him. She knew but two words of the English language, "London" and "Gilbert," and by repeating the first she obtained a passage in a vessel, arrived in England, and found her trusting way to the metropolis. She then took her other talisman, and went from street to street pronouncing "Gilbert." A crowd collected about her wherever she went, asking a thousand questions, and to all she had but one answer, "Gilbert, Gilbert." She found her faith in it sufficient. Chance or the determination to go through every street brought her at last to the one in which he who had won her heart in slavery was living in a prosperous condition. The crowd drew the family to the window, his servant recognized her, and Gilbert Becket took to his arms his far-come princess with her solitary fond word. "Heaven" and "Christ"—the one will take us to the world of blessedness and the city of love, and the other will bring us to the throne.—C. A. Koenig.

A GOOD PRAYER

Wendell Phillips said: "At the outset of life I asked God that whenever a thing was wrong it might have no power of temptation over me, and that whenever a thing was right it might take no courage to do it. And from that day to this, whenever I have known a thing to be wrong, it has been no temptation; and whenever I have known a thing to be right, it has taken no courage to do it." This prayer is worthy to be made by ever soul; for such a prayer is the secret of all integrity, and the answer to it is integrity itself.

Do not despise, either in manner or in fact, any human being. Learn all you can from every one, and remember that your own weak points are just as weak as anybody's.

And above all, be good-humored and keep your temper. Anger is weakness of fatuous folly. And don't imitate the weaknesses of great men under the mistaken impression that they are the causes of greatness. A great man with great whiskers is a great man in spite of great whiskers.—From "Aphorisms for Young Men."

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"Gone, my darling. Sulphume and Sulphume Soap have taken them all away."

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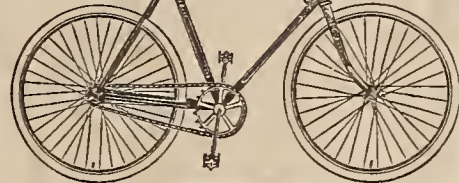
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PLEASURE OF FARM LIFE

A LADY of middle age once said to me, "When I began my married life we were in debt for our home, and I was determined to do my part toward securing an independence. I can look back now and see myself like the man with the muck-rake in "Pilgrim's Progress." There was no time for reading nor social enjoyment. I never looked up or around me, but kept digging away year after year, thinking when we were out of debt and had everything comfortable about us I would then enjoy myself. When that time came I was so used to digging that I kept it up, in order to have something with which to set the children up.

"How we cheat ourselves!" she said, sadly. "My children grew up without the care and companionship that would have been far better for them than the paltry dollars hoarded for them. Mother and father have slipped away into the beyond where no word or deed of mine can comfort them. Brothers and sisters are scattered, and I am growing old alone. I did not appreciate the opportunities for loving companionship with them, and now they have passed. I had no time for the social functions of life, and now I am unable to enjoy them as I might have done if I had cultivated the social affections of my nature."

This was an intelligent woman, who might have been a power for good in the neighborhood, but instead had deteriorated into a common drudge, unable to rise to her heritage of womanhood and take her place gracefully in the sphere their property and station placed them in. We see it in far too many homes, this treadmill life that drives from four in the morning until nine at night. No time for the companionship of great minds in their writings, to keep up with the best thought of the present day. The children, hungry for enjoyment and development, with no appreciation of the dollar-and-cent view of life, are bound to the wheel and their young lives dwarfed, or else they are driven away from the farm to the far less safe and independent life of the city.

This kind of life does not pay, even financially. The intelligent man who keeps up with the times prospers better than the one who plods in ignorance of the best ways of managing. The man who reads and thinks can work better than the plodder, who ages sooner and whose shriveled life goes out before its time. It is the monotony of farm life that brings ill health and oftentimes insanity. It need not be monotonous. A farmer's family are brought into closer relationship with the grandeur and beauty of natural life than any other class.

I hope the garden this spring will bring every girl and woman out of the house into the morning air, redolent with the perfume of spring blossoms, vibrating with music, instinct with health and happiness; or into the dewy eve, where you can behold some of the glorious sky pictures that flash and glow and melt and change from glory to glory until the tears come for want of better expression. Then hoe away until the last gleam fades and the clear white light reminds you of the city where there is no need of the sun, for "He is the light thereof." Then as the evening star winks at his brethren who begin to peep out, faintly at first and then with brighter twinkles, clean off your hoe or rise from your weeding, where the body may bow and the spirit worship, and go to your bed a better, happier and more contented woman.

If such be the result, and it may be for each of us, the uplifting and inspiration gained by your direct contact with nature will cause you to never again deny yourself of the grand privilege of becoming better acquainted with her in her mysterious work of germination and growth, teaching the blessed lesson of a resurrection into new life for us and the one that encourages us in our endeavors, that it is "first the blade, then the ear, then the full corn in the ear." You will grow up to appreciate the beauties all about you, and to look up to the All Father who so lavishly crowns the farmer's life with beauty and blessing. The farm home will become the dearest place on earth to you and your children, and your lives will broaden and deepen year by year in a true and wholesome development.

S. NAOMI WOLCOTT.

MONEY-MAKING SCHEMES

Such a wail as was sent up from the heart, apparently, of a Chicago citizen just a short time ago, just because he found it was impossible to obtain anywhere in that city such a thing as a loaf of "mother's kind of salt-rising bread."

The thought occurred to me at once, "What an opportunity this for some woman, and, in fact, for many women in a city of Chicago's great size." For this same citizen voiced the regret of the hearts of a great number of other men, he declared. And to think, "no place where old-fashioned salt-rising bread could be procured." There is apparently a little fortune in the enterprise for enterprising women of cities, and doubtless a neat little income for other women who live in smaller places. If all detested the taste, and worse yet, the smell of salt-rising bread, as does the writer of these suggestions, the demand would not be great. But the majority of men love salt-rising bread with the characteristic love of men for "mother's cookery" in general. If, then, they like this bread, and will have it if obtainable, why shall not women who must labor in public places cater to this taste, and thus create a demand, and thus fill their empty coffers?

"Raising eggs" for market is another thing that I am surprised about, inasmuch as so very few comparatively are engaged in this truly lucrative undertaking. This side of the question appeals particularly to farm wives and daughters. It is a subject so thoroughly discussed through the columns of all agricultural publications and through the numberless poultry journals that it seems slightly out of place to make particular mention of it here. But the hue and cry throughout the Lenten season, in the cities, because of a lack of eggs and "the hens going on a strike," makes the subject a most pertinent one for consideration by women and girls who wish to remain at home on the farm and make a goodly little income for themselves. Eggs reached one dollar a dozen, and remained there for some days at Chicago. At Omaha, Nebraska, sixty cents a dozen was paid; nor was the supply in any measure adequate to the demand. During this time one enterprising woman gave her fowls especial care, bitter as the weather and disagreeable as it was for her to be "plowing through snow and cold," as she said, and she netted from her work in a very few days money enough to pay for a "pen" of beautiful pure-bred fowls for which she had been longing "this many a day." She had money left in her purse



beside, for she gathered a large number of eggs every day and received the "extreme demand in prices" for them. Why, there are ways enough to make dollars if women will but turn their attention to the ways in an earnest and businesslike way.

And "if I were you," girls, I'd raise currants and gooseberries, strawberries and raspberries and other small fruits. If I could not attend to all of them I'd at least attend to one or more of them, and make a business of it. One man and his wife, who live on a far Western farm, sold over \$50 worth of gooseberries one season. Currants are always in demand. And the nicer they are the greater the demand and the better the price they will bring. A couple of dozen of currant-bushes will not be beyond the

securing, and any girl can take care of them entirely alone. With a hoe good and often cultivation can be given them, and of rich fertilizing materials the farm always affords a plenty. The girl who looks to ways and means and who plans to make the most of all that comes her way will, in currant culture, ask that she be allowed the wash-water on wash-days, that she may give her bushes a good wetting down with it in the evening. How they will respond to the treatment, too! In the fall or early winter she will mulch her bushes well. For insect destruction she will use helebore, dusting it upon her bushes, or spraying them with the helebore mixed in water. And when currant-picking time comes, after her bushes have grown into bearing, she will wish to know how to protect herself against the discomforts attendant upon the burrowing into the skin of the body of the red parasites that are more or less numerous at fruiting-time.

These torments are very minute, but they cause any amount of discomfort by creating an intense itching and the raising of great red blotches very like unto "hives." Wherever there is a band about the body there they locate and bury themselves in the skin. To prevent this trouble keep one suit of clothing for currant-picking. Currant-time is always summer-time, of course, and so far as need is concerned, a very few garments will suffice. One is usually alone and hidden when picking the fruit, so that a calico dress and skirt, old slippers and hosiery are sufficient until the currants are picked for the day. Have ready a kettle of boiling water to plunge the garment into as soon as removed. Take an immediate bath, using a little soda in the water. Or better, wash with soap and water, and then dampen the body about the waist-line, around the armpits and about the limbs with soda-water. This tends to kill whatever of the little pests that may have burrowed into the skin before the fruit-picking was finished. Put on clean clothes, never putting on the "business suit" (?) again until it has been scalded and dried. This method has been followed out with the very best of results, whereas those who took no such precaution were irritated nearly to death by the itching and burning caused by these minute depredators.

Strawberry culture has been too often dwelt upon to need further urging as a business for farm girls to pursue as a means of purse and wardrobe replenishing. But small fruits and poultry-raising go hand in hand, as it were, if one will have it so. And it may be made a very profitable combination business for any one who takes hold of it determinedly and not half-heartedly.

These are early spring-time suggestions for money-making. Of other lines of money-making for women I will write of in another letter.

LYNN LANGLOIS.

DURABLE AS WELL AS PRETTY

How to provide a supply of carvers'-cloths, tray-cloths, centerpieces and doilies for every-day use that are at once pretty, inexpensive and durable is a question that puzzles many a thrifty housewife.

No simple finish for these accessories is at once so dainty and pretty as hemstitches, but it is an ornamentation that one pays dearly for, as every thread drawn from the linen lessens its durability, and long before the center has worn out it has parted company with the hem.

A plain hem ornamented on the right side with a line of feather, briar or some other kind of fancy stitch wrought in delicate colored embroidery-silk is exceptionally decorative for a small amount of work; but alas! neither Asiatic nor any other kind of silk can endure the general family washing—and the housewives are few who can shoulder the burden of a special one.

A decoration not so quickly made as either of the above, but one that has all the good qualities of both and none of their defects, is fine lineu crochet or knit lace and insertion, especially where one or both of them are applied by buttonhole-stitching each side of the insertion and the top of the lace down to the linen, and afterwards cutting the latter away from the back.

The most effective insertion is one which greatly resembles elaborate drawn-work, and consists of a continuous line or spaced clusters of fine linen crochet medallions, blocks, clover-leaf or other prettily shaped sections placed with their center exactly on a line with the top of the hem, and secured as above. This applique crochet gives fine scope to one's ingenuity, as there is almost no limit to the different pretty shapes for sections or the manner of their arrangement.

Linen fringe knotted into a narrow crochet heading is another popular finish for center-

pieces, and deserves to be, for it is at once graceful and durable.

The most inexpensive material for these ornamental pieces, and one far handsomer than would seem from reading, is remnants of fine piece table damask, which can be picked up for almost a song at the clearance sales of these textiles. The body pattern is, of course, most effective, but surprisingly pretty centerpieces and tray-cloths can be made of two oblong sections, or from square ones cut from the border, neatly hemmed all around, and then joined together with narrow crochet insertion overhanded to the hems. The outer edges may or may not be finished with lace to match. The border strips also make pretty doilies either finished with lace or buttonhole-stitched scallops.

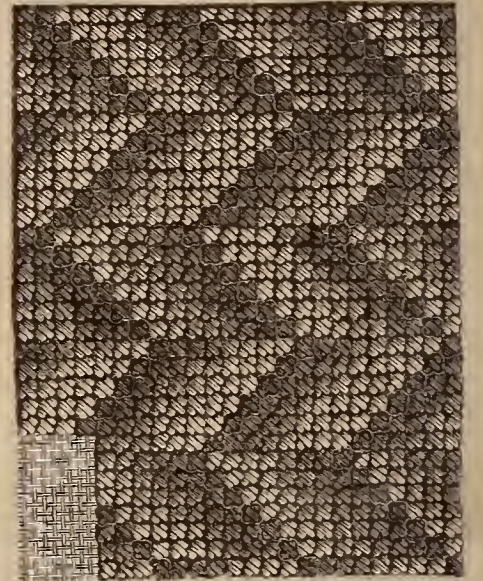
For a centerpiece or doilies of plain linen a hand-made hem with a line of French knots or dots in raised satin-stitch, evenly spaced over the stitching on the right side, is a dainty finish. Still another effective finish is—but I desist, embroidery opens up too large a field.

KATHERINE B. JOHNSON.

CROSS-STITCH

The revival of this old-time fancy-work brings many new lines of fancy-work in its trail. The combination of several shades in one piece of work is always pleasing.

The pattern illustrated can be used for different purposes. As a book-cover it is very convenient, but by using either coarser or finer canvass it can be utilized for pin-



cushions, sofa-pillow, piano-stool or foot-rest, and as it is always durable it does not seem a waste of time. It can be done in either shades of wool or silk. Use green and brown together, or red and gray, or only the different shades of one color. There is something about the old-fashioned things that always give a quaint, home-like appearance to a home.

B. K.

SHIRT-WAISTS

Last year when Christie Irving said shirt-waists had come to stay I wondered what she would say could she see this season's display.

In an up-town window were hung side by side great bargains in winter shirt-waists, while the most beautiful creations of sheer muslins, novelties in thin materials, were there in countless varieties.

Stripes, plaids and spots in the piques, ginghams and percales, collars of the same material, having slightly rounded corners, black satin string tie in the pique, insertion two strips lengthwise. A little blouse effect is seen, although most of the thinner ones are snug at belt. A pretty effect and a little change from last year are the combining of two kinds of materials, such as a light blue French gingham having a round yoke of white tucked goods in front, all blue in the back, also blue meeting the white yoke, white cuffs and collar. Another having yoke of insertion just where the yoke joins the body, a frill of lace. Others in percale, having a bosom made crosswise of the goods, collar and cuffs, likewise white shirt-waists, will be quite the thing this season. These are made from pique and long cloth. The latter will be found most satisfactory in the laundering. One I saw had three tucks, then insertion, then four tucks, a round yoke. Finely tucked black stocks are worn with this, a yard and a quarter winding around the neck; twist no ends, just tuck the ends under and fasten with the new pins called neck-clasps. The sleeves in shirt-waists are tighter, scarcely a gather at cuff, the old-fashioned cuff-button taking the place of the link. Pretty muslin ones for dressy occasions were all lace, and ribbons to match in color the flowers or vine in the muslin.

BELLE KING.

DEY MISS DEY MAMMY SO

De l'l chillun los' de way—
Dey dunno whar ter go;
Dey des a-cryin' night en day—
Dey miss dey mammy so!

We takes en tucks dem up in bed,
En coax en pet dem some;
But still at night, en in de light,
Dey ax: "Is mammy come?"

Dat's des de word fum day to day—
A-waitin' at de do'.

Dey dunno dat she's gone ter stay
En never come no mo'.

En we—we des ain't got de will
Ter tell dem whar she gone,
Kase dese po' eyes is 'bleeg ter fill
W'en dey's a-takin' on.

Hit's des de same by night en day—
Dey dunno whar ter go,
Po' li'l lambs! dey los' de way—
Dey miss dey mammy so!

—Atlanta Constitution.

A LETTER

LADIES who, in the way of being helpful to each other through the columns of FARM AND FIRESIDE, seem to form a sisterhood, I seek admittance, somewhat timidly, I assure you, feeling my "mite" of help to be so small. But being the wife of a farmer, my heart goes out to those who, like myself, greedily devour every line intended to benefit the farmer's wife, making her work lighter, her home brighter and more pleasant and above all what is elevating to the mind of woman.

Too many of our city friends think the women of the "country" have little care aside from those of drudgery.

Sometimes I would like to sermonize on this very subject, but again I think if they could have a peep into the home life of many of our country people they would actually envy us. The great trouble is, as with a great many things, misjudged; they set up as an example some one far below the average, to say nothing of our best people, and point him or her out as "from the country." Then on seeing the better class, express surprise to learn they are "from the country," as though we in the country had no rights or advantages enjoyed by themselves, or surprised that good use had been made of such.

True, we have not all their advantages; neither have they ours. How many of us stop to think of this when we wish to exchange places with them. We can have the best thing that is in the make-up of the best and noblest of women—a good, pure heart; and acting according to its dictates is the safest guide for those who, desirous of elevating the mind, do not quite know which way to turn, so to speak.

With this let the manner be strictly original, which to me is one of the chief charms of either man or woman, from city or country. To do as another does, or say something we have heard others say, simply because we admire them or their sayings, is only assuming another's personality, and soon it will be discovered we have none of our own.

Let us encourage religion, education, and help each other in our homes to think of something that will be beneficial, that will elevate the mind. Let us read the best books, study them, apply them so far as can be to our own individual lives.

A neighborhood library would be nice. Form a membership; if not more than twenty, that many dollars would buy twenty or more books, which, added to yearly, would be something in which the vicinity might well take pride and interest. Let some one near the center take care of the books, having certain afternoons for distribution and not allowing the books out for more than a certain length of time. If they are, subject the person having one too long to a fine. I mention the library, knowing it to be so nice in town, because I once wanted to "exchange places" with some friends. Am glad, however, to be home again on the farm.

My letter is getting long, but to the woman who has no help, doing all her sewing, housework, etc., let me say, if just now you are not busy, try doing some of that summer sewing. Perhaps there is nothing in the house in the way of new goods to make. Well, maybe there is a dress to be made over, or wrappers or summer gowns in which a change is needed, that are put away till summer? Remember, some warm day you will need them.

I know whereof I speak. Last summer I was so far behind with my sewing, having been sick the winter before, and the lesson was useful to me. This winter I am making up all there is in the way of plain things in the house. When summer comes my best dress will not be slighted in order to do

plainer sewing, and it will be so nice to know such things are ready when needed.

Hoping that my application for membership to your circle will not be rejected, I close, promising that in the future my letters will not be so long if I am so fortunate as to be one of you.

R. S.

SPIDER-WEB AND TREFOIL LACE

ABBREVIATIONS.—Ch, chain; tr, treble; st, stitch, and s c, single crochet.

Ch 82.

First row—1 tr in fourth st from needle, 2 tr in next 2 st, ch 3, miss 3 st, 6 tr in next 6 st, ch 3, miss 3 st, 3 tr in next 3 st; (ch 5, miss 4 st, 2 d c in next st) six times; ch 6, miss 5 st, 6 tr in next 6 st, ch 6, miss 5 st, d c in next; (4 knot st, d c in fifth st from last d c) four times; ch 6, miss 5 st, 6 tr in next 6 st.

Second row—Ch 8, 4 tr in first four st of 8 ch, 2 tr on 2 tr, ch 2, miss 2 tr, 2 tr on next 2 tr, 4 tr on 4 tr, * 2 tr under 6 ch, 1 knot st, s c in first knot between 2 knot st; (2 knot st, s c in next knot) three times; 1 knot st, 4 tr under 6 ch; 2 tr on 2 tr, ch 2, miss 2 tr, 2 tr on next 2 tr, 4 tr under 5 ch; (ch 5, 2 d c under next 5 ch) six times; ch 3, * 3 tr on 3 tr, ch 3, 6 tr on 6 tr, ch 3, 3 tr on 3 tr *. The directions between ** are the same in every row, so to save space it will be called "heading."

Third row—Heading; (ch 5, 2 d c under next 5 ch) five times; ch 5, 2 tr under next 5 ch, * 4 tr on 4 tr, ch 5, d c under 2 ch, ch 5, miss 2 tr, 4 tr on 4 tr, * 2 tr under knot st; 1 knot st, s c in first knot between 2 knot st (2 knot st, s c in next knot) twice; 1 knot st, 2 tr under next knot st; repeat from * to *, then 2 tr in loop at end.

Fourth row—Ch 6, 2 tr in first 2 st of 6 ch, * 4 tr on 4 tr; (ch 5, d c under 5 ch) twice; ch 5, miss 2 tr, 4 tr on 4 tr, * 2 tr under knot st, 1 knot st, s c in first knot, 2 knot st, s c in next knot, 1 knot st, 2 tr under next knot st; repeat from * to *, then 2 tr under 5 ch; (ch 5, 2 d c under next 5 ch) five times; ch 3, heading.

Fifth row—Heading; (ch 5, 2 d c under 5 ch) three times; ch 5, 2 tr under 5 ch, * 4 tr on 4 tr, ch 5, d c under 5 ch, ch 3, tr in center st of next 5 ch, ch 3, tr in same st, ch 3, d c under next 5 ch, ch 5, miss 2 tr, 4 tr on 4 tr, * 2 tr under knot st, 1 knot st, s c in next knot st between 2 knot st, 1 knot st, 2 tr under knot st; repeat from * to *, then 2 tr in loop at the end.

Sixth row—Ch 6, 2 tr in first 2 st of 6 ch, * 4 tr on 4 tr, ch 5, d c under 5 ch, ch 5, d c between 2 tr, ch 7, d c in sixth st from needle; (ch 5, d c in same st with last d c) twice; this forms three loops; into each loop work 1 d c, 1/2 tr, 7 tr, 1/2 tr, 1 d c; 1 d c on remainder of 7 ch, d c between 2 tr of previous row, ch 5, d c under 5 ch, miss 2 tr, 4 tr on 4 tr, * 1 tr under knot st, 1 tr under next knot st. Repeat from * to *, then 2 tr under next 5 ch; (ch 5, 2 d c under 5 ch) four times; ch 3, heading.

Seventh row—Heading; (ch 5, 2 d c under 5 ch) three times; ch 5, 2 tr under next 5 ch, 4 tr on 4 tr, * ch 5, d c under 5 ch, ch 3, d c in center tr of first leaf of trefoil; (ch 6, d c in



center of next leaf) twice; ch 3, miss 5 ch, d c under next 5 ch, ch 5, miss 2 tr, * 6 tr on 6 tr, then repeat from * to *, 4 tr on 4 tr, 2 tr in loop at end.

Eighth row—Ch 3, miss 2 tr, 4 tr on 4 tr, * 2 tr under 5 ch, ch 5, d c over d c in leaf, ch 5, d c under next 5 ch, ch 3, tr in center leaf, ch 3, tr in same place, ch 3, d c under 5 ch, ch 5, d c on d c in next leaf, ch 5, 2 tr under next 5 ch, * 6 tr on 6 tr. Repeat from * to *, then 4 tr on 4 tr; (ch 5, 2 d c under 5 ch) four times; ch 3, heading.

Ninth row—Heading; (ch 5, 2 d c under next 5 ch) four times; ch 5, miss 2 tr, 4 tr on 4 tr, * 2 tr under next 5 ch, ch, d c under 5 ch, ch 5, d c between 2 tr of previous row, ch 5,

d c under next 5 ch, ch 5, 2 tr under next 5 ch, 4 tr on 4 tr, * 1 knot st, d c between next 2 tr, 1 knot st, 4 tr on last 4 tr; repeat from * to *.

Tenth row—Ch 3, miss 2 tr, 4 tr on 4 tr, * 2 tr under 5 ch; (ch 5, d c under 5 ch) twice; ch 5, 2 tr under 5 ch, 4 tr on 4 tr, * 1 knot st, miss tr, s c in top of next tr, 2 knot st, s c in top of first tr of next 6 tr, 1 knot st, miss tr, 4 tr on 4 tr; repeat from * to *; (ch 5, 2 d c under 5 ch) six times; ch 3, heading.

Eleventh row—Heading; (ch 5, 2 d c under 5 ch) five times; ch 5, miss 2 tr, * 4 tr on 4 tr, 2 tr under 5 ch, ch 5, d c under 5 ch, ch 5, 2 tr



under 5 ch, 4 tr on 4 tr, * 1 knot st, miss 1 tr, s c in next, 2 knot st, s c in first knot, 2 knot st, s c in first tr, 1 knot st, miss tr; repeat from * to *.

Twelfth row—Ch 3, miss 2 tr, * 4 tr on 4 tr, 2 tr under 5 ch, ch 2, 2 tr under 5 ch, 4 tr on 4 tr, * 1 knot st, miss tr s c in top of next; (2 knot st, s c in next knot) twice; 2 knot s c in first tr, 1 knot st, miss tr; repeat from * to *; (ch 5, 2 d c under 5 ch) six times; ch 3, heading.

Thirteenth row—Heading; (ch 5, 2 d c under 5 ch) six times; * ch 6, miss 4 tr, 2 tr on 2 tr, 2 tr under 2 ch, 2 tr on 2 tr, * ch 6, miss 3 tr, s c in top of next; (2 knot st, in next knot between 2 knot st) four times; repeat from * to *. Begin again at second row.

EDGE.—Ch 7, s c in loop at end of every second row; repeat length of lace; under each of the ch of 6 work 2 d c, ch 3, 2 d c, ch 3, 2 d c, ch 3, 2 d c; this makes 3 picots on the edge of every little scallop, excepting the ch at the point where there should be 5 picots made; and in the depth between the points make the d c under a tr, as there is no loop there.

MARY E. BURNS.

MONEY FOR THE FARMER'S WIFE

It goes without saying that all women want money, and it is equally true that if the farmer's wife gets any she must, like her fowls, scratch for it. Therefore, she cannot do better than turn her time and attention to turkey-raising. It is now time for those desirous of making money in 1899 to get ready. One gobbler and four to six hens will be sufficient to start on. The proper way to secure the eggs is to drive the fowls every morning into the stable or some old building, and keep them penned up until they lay. After a few times they get use to being penned up, and are no trouble.

The eggs should be set under chicken-hens, and about twelve in number. When the turkey-hens want to sit, confine them a few days and they will then go on laying. Arrange to have the first young turkeys come off from the first to the middle of May. The best plan is when you take them off to have an outhouse that you can shut up, and keep them there until they learn the cluck of the hen. Scatter hay over the floor to prevent cramp in the legs, and put in each little mouth a pinch of black pepper; this will keep them from having diarrhea, a disease that they are very subject to. Feed very sparingly a custard made of milk and eggs seasoned with pepper three times a day. Some feed hard-boiled eggs, but the custard is much better, which is both food and drink. It is not necessary to give them water the first week.

If the weather is dry and warm make a pen outdoors of slats wide enough apart to permit the young turkeys to go in and out; inside have a box for them to roost in. Do not let them out in the morning while the grass is wet with dew. Keep them this way for two weeks, still feeding the custard, with bread-crumbs added, and then turn out and drive away from the house. They will be more healthy if not allowed to hang around the yard, but be sure that they have their supper and are securely fastened up at night. After a month or six weeks it will not be necessary to feed at all, only in the evening as an inducement to come home.

Go on all through the summer, and set every egg as late as August. The late ones make good turkeys to raise from next year if not large enough to sell. Do not permit the turkeys to get in the habit of roosting

away from home. Notice every night if they are in their proper place, and if not, immediately go in search; whole flocks have been lost by getting careless in looking them up.

The farmer's wife who considers this method so much trouble must remember that "there are no gains without pains," and must not be disappointed if she depends on her husband, as he has nothing to give her after the interest, taxes and numerous bills are paid, or envious of her sisters, who are willing to take the necessary pains to insure success, if they have the means to take a little trip, or get new books for next winter's reading and the wherewith to purchase Christmas presents for their friends.

ANNIE W. LEE.

CLOSETS

The houses of the present day are much more convenient, in many respects, than those built thirty or forty years ago; but especially is this true in regard to closets. At that time very few houses had any closets, though some of the larger ones had one small dark closet called a "clothespress." A roomy closet opening out of each sleeping-room was an unheard-of thing. Then when some thought began to be given to the matter of closets not much space was given to them; little dark cupboards beside the chimney were called closets. Now architects plan for roomy closets and many of them, in country houses especially. Most closets now have a window in them for light and ventilation, and we wonder how people ever lived without these conveniences.

Besides the clothes-closets opening out of the chambers there should be a light, roomy linen-closet opening out of the upper hall. This should be fitted with drawers for sheets, pillow-slips, table-linen, etc. Shelves for other articles of bedding and a wardrobe may also be in here, where winter coats can be put away for the summer. Another convenient closet is one opening out of the front hall on the first floor, in which hats, coats, etc., that are in daily use may be kept.

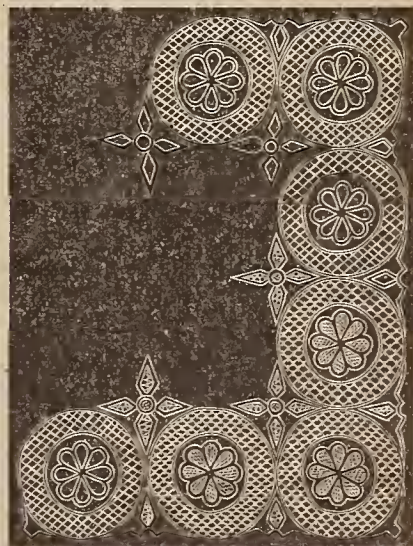
I lately saw a closet in a new house which seemed to me the perfection of convenience. The hooks for hanging garments were on the under side of shelves placed a convenient height from the floor. On one side of the closet was a tier of shelves, and each space between them was fitted with a door hinged at the bottom and opening down. These shelves were long enough to hold a dress-skirt folded and laid at full length, and would each hold a skirt and waist of a dress. The door was the entire length of the shelf, and when opened the whole interior of one shelf was exposed; when the door was closed all dust was excluded. A square window was above the shelf on one side of the closet, which was hinged, and could be opened for ventilation.

MAIDA McL.

DOILY IN LACE BRAID

The materials required are two yards of lace braid, one ball of 1000 linen thread and fine linen the size of the doily. Baste all upon your cambric pattern, the linen being cut away entirely to the last row of braid, which makes the fringe. These are very pretty.

TABLE-COVER.—This is of white corded silk lined with old rose taffeta, three fourths of a yard being used. The bars are of light green couched with white; the wheels are



outlined in dark green. Alternate the centers of the wheels, using white outlined in the old rose in one and the reverse in the next. The points which come in below outline in white, making also a cat-stitch with an extra thread run through it. The centers of the wheels are done in very close satin-stitch, the small ring coming in between being done in white French knots, using both colors. Finish with a tiny green cord upon the edge.

BELLE KING.

[CONCLUDED ON PAGE 12]

THE ATTRACTIVE DINING-ROOM

BY ALL means, since so much time is to be spent in the dining-room, and since its general appearance is of such consequence, choose a light, airy, cheerful room. Cheerfulness will be its life, whether it be in the faces of those who dine or in the aspect of the room itself.

How this one quality, so simple, yet so desirable, will drive clouds from troubled brows and sorrow from sad hearts!

The furniture of the room must, of course, accord with the means of the mistress of the house; but even she of small resources will be able to afford some pretty, light papering (pale blue tints are desirable) and a floor stained with a suitable dark color or covered with durable matting.

A small sideboard, table, chairs and china-press would make a creditable furnishing. Decorate the walls with landscape drawings, pictures of fruits, flowers and game. Almost any pretty picture, except portraits, would be in good taste.

In many cases home talent will be able to produce suitable etchings and drawings, so that the supply need be by no means meager. A judicious selection will produce a result refining and elevating.

A pretty motto for the dining-room might be selected, to be painted on silk and framed with a narrow white or gilt frame, with a glass. A very appropriate one would be "Small cheer and great welcome makes a merry feast."

"Great welcome" is one secret of the successful entertainer. But the table is truly the central figure of the dining-room. These are the days of "beautiful tableware at low figures," and the family must be in straitened circumstances indeed who cannot afford a good quality of table-linen and pretty china and glass.

The arrangement and appearance of the table itself is of paramount importance. It matters little how simple the meal if it be faultlessly served and presided over by a gracious hostess. Brown bread and butter, a cup of coffee and dish of fruit will present quite a tempting appearance if the table-linen be spotless, the china delicate and dainty, and the silver and glassware in perfect order.

And just here a remark in regard to a more simple diet for American people is opportune. We would all be "healthier, wealthier and wiser" if our fare were of a simpler nature. Americans eat too much; their dishes are too rich, too various and too costly; their preparation consumes too much of the housewife's time, and the digestive organs are so injured that finally even simple diet cannot be relished.

This is a line in which wide reforms may be introduced, whose benefits would be untold to American citizens in general.

But to return to the dining-room. The "meal-time" must be the hour when all cares and worries are laid aside and forgotten. In many families it is the only hour at which all are assembled. Do not hurry. We are hurrying through life at far too rapid a rate anyhow.

Take time to eat, and eat slowly. Make the conversation of the breakfast or tea table a true "feast of reason and flow of soul." It is the opportunity of the day for social intercourse and improvement, and while ministering to the physical needs do not neglect the even more important duty of feeding the mental and moral natures.

EMILY H. WATSON.

hour, she cleaned them as effectively in half that time. She first washed them in a basin of hot water, and added a teaspoonful of the washing-powder, and after it had dissolved she washed each piece separately, and while hot she quickly rubbed with a piece of chamois-skin. This cleaned them beautifully, and she said that if cared for in this way the plated ware would look as bright as solid silver. It is better than soap.

Little Grace was as busy all Saturday morning as her mother, and what she did was done well. She made up her own little bed, her brother's also, and dusted the rooms carefully after her mother had swept. Her mother did not require much of her on school-days, yet she had certain duties, and performed them with cheerful spirit. The young son, fourteen, made the fires, brought up the coal, split the kindling, kept up the fires when at home, feed the chickens, and swept off his mother's pavements before breakfast, for they lived in town. The mother tried to have a complete holiday for the children Saturday afternoon, letting them do what they chose. When the children came home from school every day they each knew their duties, and before commencing their studying performed them.

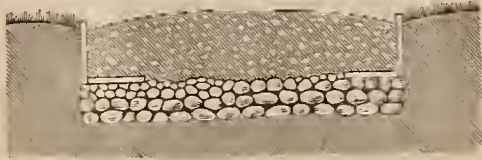
Next door, or across the street, lived another widowed mother, frail as a flower, but she arose and made her fifteen-year-old son's fire, beside the fire in the kitchen stove, and when able, got breakfast and called the three children (two daughters) in time to dress for breakfast. If the coffee did not suit the son and heir he found fault; he looked over his lessons and brushed his clothes faultlessly and went to school, leaving his mother to bring up the coal from the coal-house. She did not require anything of him, never had, and now he rebelled against doing any such drudgery. She made an idol of him when he was small, as the only boy, and shielded him; now he is intensely selfish and will not do. She has to sew and is hard pressed for means. One of the girls is like the son; the other will assist her mother, and always would, not because the mother required it, but the child loved her frail mother and would do for her. A mother is laying up a store of unhappiness for the son she waits upon in this way, for his wife may have been reared in a different school and will not get up and make his fires and bring up the coal, and he may not be able to hire it done. I have a contempt for a boy that old who will let his mother or sister do such work for him. Require your children to help you; they will love you better for it.

AUNT JANE.

HOW TO HAVE DRY PATHS

While it is a good idea always to have the walks about farm-houses convenient and attractive, the one great essential point lies in obtaining those which will be firm and dry at all seasons of the year, no matter what the weather is. Indeed, a solid, clean path is not only a pleasure to walk upon, but it prevents less mud and dirt of various kinds from being tracked into the house, saving the patience of the housekeeper.

Hence the reason for my presenting the plan in the accompanying illustration, which shows how a very neat and permanent walk may be made. First, a shallow trench is dug the desired width of the path, and the bottom filled with round stones. Smaller ones



having been placed on these, two strips of board are arranged at either side, nailed together, as can be seen, and over the whole sufficient gravel is shoveled to "round up" the path. In this way the outer edge of the walk is kept straight and true and the center free from grass, the horizontal board at the bottom excluding much which would otherwise grow in under the upright board. Provided coal-tar could be mixed with the top layer of gravel, it would cause it to harden down and become like pavement, and once hardened the smell of the tar would almost entirely disappear.

FRED O. SIBLEY.

OUR PILGRIMAGE

Groping blindly from day to day. Stumbling o'er pebbles that lie in the way; Bruised and faint, strength almost gone, Impelled by hope to wander on. We find, at last, the smooth, safe road That leads up to the throne of God. —Prudence Prim, in Good Housekeeping.



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A DEAD-SEA APPLE

By *Virna Woods*

Author of "The Amazons," "A Modern Magdalene," "Jason Hildreth's Identity," "An Elusive Lover," etc.

CHAPTER VIII.



THE specialist came on the noon train the next day. Bland, who knew him only by reputation, recognized him, as he alighted at the depot, by his quick, decisive movements and the case of medicines in his hand. As he stepped up and pronounced his name interrogatively the newcomer nodded and asked at once for his patient.

Bland led the way across the street, and a moment later the doctor was bending over Veva, who had not roused from her apathetic state.

When he had examined her he turned to Mrs. Parker and Bland, with the quick movement characteristic of him.

"It is a functional trouble of the heart," he said. "This attack was probably brought on by some great excitement. It is essential that she should have absolute quiet and freedom from excitement or anxiety of any kind."

He set out the medicines he had brought with him to supply the pharmaceutical defects of Lupine Springs, and gave minute directions for her care. It was not until they were in Bland's own room and the latter had handed him a pile of gold coins, so much in excess of his usual fee as to cause him to glance up with keen surprise, that he made an inquiry that had been more than once on his lips.

"What is the patient to you?" he said.

Bland flushed, and hesitated to reply.

"It is not from curiosity that I ask," said the doctor, impatiently. "Is she your sister, or your wife, or your fiancée?"

"She is nothing to me," said Bland, unsteadily, "except that I—love her."

"I suspected as much," said the doctor. "Have you told her so?"

"I wrote to her from San Francisco," said Bland, uneasily, "and told her I was going away."

The doctor's eyes flashed scornfully over the white, set face before him. But to his surprise, Bland returned the look steadily.

"It is not possible," he said, "that I should marry her, so I thought it best to go away. But when her sister wrote me that she was sick, I could not leave without assuring myself that she received proper care."

"You say you cannot marry her?" said the doctor, sternly. "Is there a legal obstacle to your union?"

"No," said Bland, without hesitation; "there is not."

"Then," continued his interlocutor, "I have but one thing to say to you: Marry her, and she will recover; continue your present course, and I will not answer for the consequences."

He turned to go, but stopped at a question from Bland.

"Yes," he replied, "I will come again if you want me. Telegraph to me at any time. But I warn you again, it is a matter of life and death, and the case is in your hands, not mine."

With these words he strode out of the room.

It was in the afternoon when the doctor had returned to the city that Bland locked himself in his room and sat down to look the situation in the face.

For a long time he sat silent, his elbow on the table, his head resting on his hand, and the shadow of his thoughts lay across his face.

"Is it true," he muttered at last, "that the soul can be innocent and the body guilty? If so, the penalty has been misapplied, for my body has escaped and my soul suffered."

He rose impatiently, and began to pace back and forth across the room. Through the open window the spring breeze blew warm and fresh, just stirring the muslin curtains and the leaves of the fern on the sill; and somewhere in the trees outside he heard the lilting of a bird. His thoughts turned to Veva, tenderly and reverently, and he bowed his head on his breast.

"How can I let her die?" he groaned. "How could I live with the burden of that also on my mind? And how could it hurt her if she never knew? Of course, there is the danger of discovery, but it is a chance against the certainty of death. Oh, Veva, Veva, how can I stand by and let you die?"

A light tap disturbed him, and opening the door, he saw Mrs. Parker standing in the hall.

"Can you sit with Veva awhile?" she said. "I want to prepare the bouillon the doctor ordered."

A swift change had come over his face. The agonized uncertainty was gone, and in its place was the firmness of a fixed resolve.

"Yes," he said, "I shall be glad to sit with her."

"The medicine for her heart is on the table," said Mrs. Parker. "You know how to give it if she should have an attack—a teaspoonful in water every fifteen minutes."

"Yes, I know," he replied, as he passed her in the hall and went to Veva's room. He hesitated a moment, then pushed open the door and went in.

Veva looked up, and her pale face slowly flushed. As he crossed the room and sat down

by the bed she turned to him with a troubled, questioning gaze. He took her hand and held it between his own.

"What is it, Veva?" he asked, gently, bending over her.

She hesitated a moment, the troubled question still in her eyes. Then she spoke:

"When are you going away?"

He lifted her hand to his lips and kissed it tenderly. Then as she lay gazing in his eyes he leaned over her and with gentle fingers stroked back the curly strands of dark hair from her forehead.

"Dearest Veva," he whispered, "I shall never leave you."

For a moment her eyes grew luminous and a transfiguring joy passed like a ray of sunshine across her face; then she lifted her arms, and laying them about his neck, drew his face down till their lips met.

Half an hour later, when Mrs. Parker came up with a bowl of bouillon, she found Bland sitting by the bed, holding the girl's hand, while Veva herself lay in quiet slumber with a smile on her lips.

"You must be a magician," said Mrs. Parker, in happy wonderment. "I have not seen her look so natural since she was taken sick."

"She has promised to be my wife," he said, simply, as he returned her gaze.

CHAPTER IX.

Spring passed into summer in insensible gradations that changed the green of the hills to a golden brown, and softened the pine-clad slopes and the purple outlines of the mountains with a shimmering haze. In the hollow of the hills lay the little town, wrapped in a slumberous warmth,

lifted to no one the curtain that hung over his past. Even Mrs. Leonard, indefatigable as she had been in her visits to the hotel, and her questions and observations when there, and faithful as her husband had proved in the examination of the post-marks of the mail, was obliged to confess herself baffled for the first time in her life. And yet the courteous stranger did not seek to conceal his past, but only to maintain a dignified reserve that his interlocutor found it impossible to break through. Mrs. Parker, indeed, felt vaguely troubled; but she would not question Veva, fearing that her uneasiness might be communicated to the girl. Not for the world would she have disturbed her sister's happiness—the happiness that was forever denied to herself.

"He must be good," she comforted herself, "or he would not be so thoughtful and so kind to Veva. And he is rich. The dear child can have everything she needs so much more than I could ever have given her. Best of all, she will have love."

She looked out through the open door and saw the old man at the forge, his figure bent, his long, white beard sweeping his breast. A feeling of repugnance, that years and constant association had softened, quivered anew through the sensitive fibers of her being. She turned away with the sense of being bound with chains. At that moment the thought that Veva, for whom she had made the sacrifice, would go away and leave her to her fate was bitter in her heart. But she banished the feeling, ashamed of her momentary weakness, and glad that her sister was to meet a happier destiny.

It was one evening, when the silence and the moonlight wrapped the hills about them in lonely grandeur, that Veva and her lover sat together on the long veranda and talked in low voices of their future. It was nearly two hours since the evening train had come in, and it was doubtful if there was any one in the village out of bed but themselves. It was, therefore, without danger of detection that their hands were locked together and the girl's head lay on the man's breast.

Her face, even in the moonlight, was flushed with a faint rose like the delicate fluted lips of a shell, and her cheeks were rounded with the soft curves of youth and health. Since the time that Theodore Bland had asked her to be his wife she had suffered no illness, but day by day had grown stronger and more beautiful.

Time passed swiftly with planning for the future



CROSSING THE ROOM, SHE SAT DOWN BY THE BED

stirred only to the simulated activity of lounging spectators at the depot and in the doorways to greet the incoming and outgoing trains and watch the departure of the clumsy stage, the yellow coach and the four sober horses half concealed in a cloud of dust.

During these happy days Veva and her lover seemed never to be apart. Painting, singing, reading and walking occupied their time as before; but the invisible bars that had separated them were down, and they seemed to anticipate each other's thoughts.

Veva had finished the "Cradle Song," and it hung in Bland's room. She had reproduced the colors of the original after her lover's description, and he declared that it was better than the brown-carbon photograph he had ordered for her from Europe. At his suggestion, she was working on a Sistine Madonna, much larger than the engraving on the book. Already he was planning that when she was his wife he would take her to Paris after their bridal tour and give her the advantages of the best art training. With this end in view he had added French to her studies, and they coned their lessons in the fragrant pine-groves, lingering over the conjugation of the verb aimer till Veva laughingly chided her lover for the delay. Meantime he was directing the efforts in art as best he could, with the growing conviction that she would yet give something to the world.

In the evenings, surrounded by the wondrous, dream-like beauty of the hills, they turned to music, and their voices blended together with the sound of the guitar. He had found among his books some Italian folk-songs set to simple music, and while she played he sang to her, or they took alternate parts in some pleasant love-song of Tuscany or Venice.

Thus the days passed, and while the village wondered and talked, the stranger in their midst

"Tell me something of your home," she persisted, "and your relatives and friends."

"Dear little Veva," he said, gently, "I have no home but with you. I have no relatives and no friends. I was alone in the world till I found you."

"Now, Theodore," she said, with a shade of impatience, "I shall be tempted to call you Topsy if you indulge in any more such fairy-tales."

"Can you not trust me," he said, driven to the wall, "and not force me to speak of something that is very painful to me?"

"Ah, dear," she said, sadly, "it is you who will not trust me; for you will not share your trouble with me."

"Joy only should be shared," he answered; "trouble should be borne alone. Otherwise is love nothing but selfishness."

"But it is the instinct of love to give comfort in trouble," she replied, "and trouble shared is easier to bear."

"Let me tell you a fairy-tale, Veva, since you accuse me of indulging in the practice," he said, again drawing her into his arms, "and see if you can interpret it."

She made no response, and he went on. As he spoke his fingers threaded caressingly the soft hair that lay against his breast.

"There was once a beautiful maiden whose name was Psyche. There was also a youth named Cupid, who wooed her in the soft Hellenic nights, and whom she loved and wedded. Then was she happy, save for a fatal wish to see her husband, who had warned her that should she do so he would be forced to leave her. But the curiosity of her sex—"

At this point the narrative was interrupted by a gentle shake administered by Veva, as well as she could accomplish it under the disadvantages of her position, and a murmured exclamation of "saucy boy"

"The curiosity of her sex," Bland calmly went on, "impelled her to disregard his warning and to venture one night to look at him in his sleep. But a drop of oil fell on him from the lamp she held in her hand, and he awoke. In her terror she dropped the lamp, the light was extinguished, and he disappeared in the darkness, as he warned her that he would do."

Veva had drawn herself away, and sat looking at him with troubled disapproval.

"I cannot interpret your fable," she said. "It is not possible that anything I could learn of your past would separate me from you. But you did not finish your tale. Psyche went to Hades and recovered her love; and so would I go alone to the ends of the world to find you."

Perhaps he had said more than he intended, for he spoke again hastily, leaning over and seizing her clasped hands in his.

"You must trust me," he said, "for my past must remain to you a sealed book. I can only swear to you that I am free to marry you, and that I have never consciously done anything of which a man should be ashamed."

She was a woman, and in love; her faith did not desert her. She turned to him, her eyes swimming in tears.

"I will ask you nothing more," she said. "I will know only that you are my Theodore, my 'gift of God.'"

So they sat in the moonlight, their hearts stirred vaguely with the glory of the hills, beyond whose fir-crowned summits the distant snow-peaks lifted their white hoods against the deep blue sky. The familiar depot with its deserted little platform, and the unpainted freight-sheds stretching between the railroad and the street; the house-roofs glimmering among the trees; the shining track curving away into the forest of pines; all the commonplace aspect of the little town was softened and etherialized by the double spell of moonlight and of love. It seemed to Veva that all her life had been but the preface to this chapter of her history. She felt her lover's heart throb against her cheek, and in one moment of ecstasy she seemed to live an eternity of joy. There were no words needed in the silence; the moments passed by, unnoted now, but counted one by one in retrospect as a miser counts his gold.

When at last he had left her with a kiss at the head of the stairs, and had shut himself in his room, he sat down by the window and gazed abstractedly out on the moon-flooded hills. His face was drawn and white; his eyes burned with a strange fire.

"God knows I would have spared her if I could," he said, "but I could not let her die. And now—I cannot give her up. It would kill her and make the world desolate for me. And why should I make the sacrifice? Why may I not be permitted to make the future an atonement for the past? I will take her away and give her happiness and health. She shall never know—but God! if I should dream the dream again."

He hurried his face in his hands and groaned.

Late into the night he sat at his desk writing and rewriting many sheets of manuscript, casting some aside and copying others in a morocco-bound book. At last he locked the book away in a drawer, and tearing the discarded papers into bits, threw them into the grate and carefully burned them.

Meantime Veva lay awake, the moonlight glimmering on her pillow and lying in a luminous stream across her face. She remembered every word her lover had spoken to her, every caress he had given her during the day; she lived over her happiness, conscious of the flushing of her cheeks and the shining of her eyes. He had kissed her hand; she looked at it in the moonlight, then laid it to her lips. When at last she slept it was but to weave into dreams the golden threads of her waking hours; and in her happy fancies no shadow of approaching evil fell across her path.

CHAPTER X.

In a lodging-house in south San Francisco a woman sat by an upper window, looking out wearily on the monotonous row of tall houses with shuttered bay-windows across the street.

The woman sighed and crumpled nervously the coarse Nottingham curtain she held in her hand.

She was thin and dark, with sharp features and short-sighted eyes. She was not yet thirty, but the lines and the care-worn expression of her face added at least five years to her age.

"Ellie!" a feeble voice called from within the room.

The woman arose, and crossing the room, sat down by the bed. The patient lifted himself on his elbow and looked at her pityingly.

"Never mind, papa," she said, soothingly, "it doesn't matter."

"And then when I had tracked him," he continued, unheeding the interruption, "to think he should have slipped from my hands like this.

"And be is rich. The bursting of the bubble didn't hurt him. He had been smart enough to put his money in United States bonds and the San Francisco banks.

"Papa, papa," the daughter protested, bitterly, "you know it isn't the money I want!"

"No, of course not," said the father, sarcastically. "You're only a woman, and women are fools. I dare say you'd forgive him the past for a kiss. But his kisses and money are not for you. I'll warrant there are pretty girls that get plenty of hot."

"And to think," the speaker went on, "he was within reach of my hand when that unlucky fall—"

"There, you have wrenched your hack, papa," said the daughter. "Lie down and don't excite yourself."

"And see you poor and suffering, yes, suffering," he went on, fiercely, "while that rascal is rolling in wealth? If I had money to set a detective on his track—"

"Hush!" said the woman, almost sternly. "I would never consent to it. I drove him away with my foolish, hitter tongue, and now that I am poor I will not seek him out."

"Well, I will seek him out when I get up from this confounded bed! Who would ever have thought that we would have come to this?" He glanced scornfully around the cheaply furnished room, with its gaudy carpet and haircloth chairs.

"And you still feel sure—" began the daughter. "Didn't I see him with my own eyes?" asked the man, impatiently.

"Yes, but how do you know he was the man who passed under the name of Raymond?"

"Good circumstantial evidence," returned her father. "Didn't he run away from me in Los Angeles, and didn't he arrange his business here so that he could leave the city for an indefinite period? I tell you, he is in bidding some place in the interior, if he has not shipped to Australia or the Sandwich Islands by this time. He would hardly have the temerity to go East."

Their conversation was interrupted by a tap at the door. It was the doctor.

"You're not so well," he said, sharply, looking at the patient. "You have been restless and excited. Positive quiet is essential to your recovery."

"How can I lie here quietly," exclaimed the sick man, "when so much depends upon my getting up? My money, my daughter—"

"My ducats and my daughter," laughed the doctor. "I did not think you were such a Sbylock as to put the money first."

"It is for her sake," protested the patient. "Why else should I want money?"

The doctor, who did not have a large practice, had seated himself for a chat. There was one bond of sympathy between him and his patient; they had both lost heavily in the collapse of the Los Angeles boom.

"Dr. Blank was telling me the other day," he observed, "a bit of medical romance."

The speaker was fond of mentioning Dr. Blank in a personal way; it gave a sort of eclat to his professional position.

"It seems," he went on, "that the hero sent for him some time ago to go up to Lupine Springs to attend a case, and intimated that money was no consideration. The doctor went and found a beautiful girl suffering from heart-disease. He suspected that she was in love with his patron, and taxed him with it. The man admitted that

he loved her, but said he could not marry her. The doctor then told him the truth—that the marriage was probably the only thing that would save the girl's life. He pocketed his fee—a princely one—and came away with the understanding that he should be sent for if needed. Contrary to his expectations, he was not summoned again. A few days ago, as he was going through to Minerville, he stopped off to inquire about his patient. He found the girl in blooming health, and preparations for the wedding in rapid progress. He related it to me as a singular circumstance that a man of wealth should have immured himself so long in Lupine Springs, and should first have rejected and then followed his advice about the girl. If you were a novelist now, you might occupy your leisure in filling out the details of the story."

"By Jove!" exclaimed the sick man, springing up suddenly, and falling back with a moan of pain, "a detective might do it better than a novelist."

"What do you mean?" exclaimed the doctor, startled out of professional protest.

"I mean that I would give five thousand dollars if I hadn't sunk it in the boom," responded the patient, "to look that man in the face."

The woman turned white; the hands that smoothed the sick man's pillows trembled. The doctor looked at her curiously.

"It is nothing," she said, nervously. "My father jumps at conclusions. He thinks perhaps your hero may be—some one that we have known."

"And you?" queried the doctor.

"It would be a chance in a thousand," she answered, steadily.

But when the doctor had gone she sank back in her chair, again trembling and pale.

"Give me my purse, Ellie," said her father.

She took it from the trunk and handed it to him. Again and again he counted its diminished contents.

"Ellie," he said at last, "go down and ask the landlady's son to come up. He has lost his clerkship, and he will be glad of something to do. And hand me that picture you wear in your watch."

"Father," she protested, "you have not the money to spare. And I don't want to give up the picture," she added, in a lower voice.

"Fool!" he cried, angrily. "Do you want him to marry the girl?"

She flushed and then whitened to a deathly pallor. She took out her watch without a word, and drawing the picture from the case, handed it to her father. Then she opened the door quietly, and passed out of the room.

[TO BE CONTINUED]

THE GRAVE OF LAFAYETTE

Of the one hundred thousand Americans who yearly go to Paris it is safe to say that very few ever visit the last resting-place of Lafayette. It lies far from the haunts of American pleasure-seekers who frequent the Champs Elysees, the splendid shops, the opera-houses and theaters, or even the galleries of the Louvre and Luxemburg, or the many ancient historic buildings raised by the genius of man.

One spring day a trip of about four miles carried us over to the Place du Trone. Near by, in the Rue Picpus, we came to the gray old walls of the Convent of Les Dames du Sacre Coeur. The mild-eyed, gray-haired sister who answered the bell consigned us at once to the one man allowed about the place—a white-haired, courteous gardener. He hailed us with joy when he found we were Americans, who had come far to see the grave of Lafayette—America's beloved friend and ally in revolution.

"Helas! mesdames," sighed the old man. "No bands but mine have tended these flowers, and but few Americans of late years have come to pay respect to the memory of the great hero, Lafayette. You come, too, on an important day for us. Five of our sisters leave to-day for South America. They go to teach young girls there."

It was strange to think of women who, as he told us, had never crossed the threshold of the convent since they entered it over twenty years before, taking the long, varied journey to Brazil.

He led us through a quaint old garden with high walls shutting it in from the street and neighboring open lots.

"No hands but mine have tended these plants for over thirty years," lovingly the old gardener waved his hand toward the close-clipped tallies, the trellises covered with grape-vines, the luxuriant flowering shrubs and gay flowers.

At the end of the garden, loved by the quiet nuns, he unlocked a gate. In a small private cemetery, where repose the remains of members of the noble families of De Noailles, De Grammont, De Montaigne and others, we found the grave of Lafayette. A modest tablet marks the spot. Birds sang in the trees close by; the roar and bustle of the beautiful, great city was hushed in this secluded spot. In a smaller inclosure lie the bones of aristocratic victims of the Reign of Terror, who perished in the Place du Trone, so near it. It saddened us to see how forgotten Lafayette's burial-place appeared to be by his own countrymen, whom he served with such royal and true patriotism during the troublous, dreadful times of the French revolution, and to the end of his eventful life. But though we neglect his grave, his name and memory are cherished and loved by all true-hearted Americans. For the youth who came across the Atlantic to aid our fathers shake off the yoke of England, and found on this continent a republic such as he dreamed of and hoped to see France, stands next to Washington in the hearts of our people. America has never forgotten, and never will forget how he impaired his fortune and periled his life to make us free. Twenty-four towns they have named for Lafayette.

CHINA'S CURIOUS CUSTOMS

The Russians have been making something of a study of Chinese manners and etiquette, and their periodicals are reporting what has been learned. The latest number of "Russkii Vjestnik" says it is not surprising that the Celestials consider Europeans harbarians when they see continually what they consider had manners and breaches of etiquette on the part of white men. The proper thing according to the Chinese notion, is diametrically opposed to the European idea. For instance, when a Chinese welcomes a visitor to his house, he does not remove his hat, if he happens to have it on. He puts his hat on if he is caught without it. The seat of honor at the table is at the left of the host. It would be considered an offense if the guest inquired about the health of the hostess or, still worse, expressed a desire to be presented to her. A Chinese takes offense if told that he looks younger than he is. The older the man the more he is respected, independently of his qualities, and, therefore, a Chinese wishes to appear older than he really is. He willingly forgives many offenses, but should any one happen to tread on his foot he will refuse to accept the most humble apologies. When a son dies in a Chinese family the bereaved father considers it proper to show strangers a smiling countenance, no matter what his sufferings may be.

The Russian newspaper asserts that there is a minister of etiquette in China known as Li-pu. Ancient books on manners are accepted by him as authority. The books include two hundred volumes. Some of the rules are Draconian in their severity. A Chinese cannot even build a house according to his taste. No matter how rich he is, it is not proper for him to build a finer or a higher house than that of his neighbor if the latter happens to be of superior rank socially. In Chinese etiquette there are eight varieties of the how. Ignorance of Chinese ideas of propriety with regard to the bow has often caused embarrassment.

A Chinese, displeased with his situation, will not tell his employer the real reason for resigning, but will give poor health or the death of a relative as a pretext for leaving. Such things have led many persons to regard the Chinese as insincere, but this does them injustice. They are also considered to be cold, unemotional and indifferent to the sufferings of others. As a matter of fact, this appearance of stolidity is only a specimen of the wonderful self-control and the iron force of character with which this race is endowed.

CONDENSE IF YOU WOULD HAVE WEIGHT

"Would a pound of feathers fall to the ground as quickly as a pound of lead?" was the question that was asked a class of which Gail Hamilton was a member. "Yes, if the feathers were rolled just as tightly," replied the future author. Roll your arguments "tightly" that they may have weight.

The leaden bullet is more fatal than when multiplied into sbot. If you want to do substantial work, concentrate; and if you want to give others the benefit of your work, condense.

"Genuine good taste," says Fenelon, "consists in saying much in a few words, in choosing among our thoughts, in having order and arrangement in what we say, and in speaking with composure."

"If you would be pungent," says Southey, "be brief; for it is with words as with sunbeams—the more they are condensed the deeper they burn."

"When one has no design but to speak plain truth," says Steele, "he may say a great deal in a very narrow compass."

The fame of the seven wise men of Greece rested largely upon a single sentence by each of only two or three words.

"The wisdom of nations lies in their proverbs." "Have something to say," says Tryon Edwards, "say it, and stop when you've done."

Gems are not reckoned by gross weight. The common air we beat aside with our breath, compressed, has the force of gunpowder, and will rend the solid rock. A gentle stream of persuasiveness may flow through the mind, and leave no sediment: let it come at a blow, as a cataract, and it sweeps all before it. Mere words are cheap and plenty enough; but ideas that rouse and set multitudes thinking come as gold from the mine. Brevity is the soul of wisdom as well as of merit.—Sneecss.

PREVALENCE OF ENGLISH

At the recent postal congress attention was directed to the fact that two thirds of all the letters which pass through the post-offices of the world are written by and sent to people who use the English language. There are 500,000,000 persons speaking colloquially one or the other of the chief modern languages, and of these about one fourth speak English, 90,000,000 Russian, 75,000,000 German, 55,000,000 French, 45,000,000 Spanish, 35,000,000 Italian and 12,000,000 Portuguese. The remainder speak Hungarian, Dutch, Polish, Flemish, Bohemian, Gaelic, Roumanian, Swedish, Finnish and Danish. Thus, while one quarter of those who make use of the postal departments of civilized governments speak English, as their native tongue, two thirds of those who correspond do so in the English language. This arises from the fact that so large a share of the commercial business of the world is done in English, even among those who do not speak it as their native tongue. There are, for instance, more than 20,000 post-offices in India, the business of which in letters and papers aggregates more than 300,000,000 parcels in the course of the year, and the business of these offices is done chiefly in English, though of India's total population, which is nearly 300,000,000, fewer than 300,000 persons either speak or understand English.

The Great Huxley

What Huxley, the Great English Scientist, Considered the Best Start in Life

The great English scientist, Huxley, said the best start in life is a sound stomach. Weak stomachs fail to digest food properly because they lack the proper quantity of digestive acids (lactic and hydrochloric) and peptogenic products; the most sensible remedy in all cases of indigestion is to take after each meal one or two of Stuart's Dyspepsia Tablets because they supply in a pleasant, harmless form all the elements that weak stomachs lack.

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TRIED

Tired to-night, oh, love, I am so tired,
I've lounged for you all day and missed you so.
Oh, let me rest with your loved arms around me,
And sing to me as in the long ago.

I have not heard you sing for many days, love,
Your life and mine have been so filled with care;
But we will rest to-night and live in fancy
The happy hours when life seemed long and fair.

Oh, love, I closed my eyes while you were singing,
And all my weariness had passed away;
I saw the dark locks on your boy brow straying,
Just as they were that long, dead, summer day.

The day you told me of your boyish fancy,
I felt it all, and yet it seems so long.
You stooped and stole your first sweet, bashful kisses,
And said our life would be one happy song.

Ah, love, we were so free then, and so happy,
The past, the future held for us no care;
How little did we know the price of living,
And what for love's own sake we each must bear.

But, dear, I would not give one day, one hour
Like this, of precious rest in love so tried,
For years of what I fancied gleams of heaven
When first you claimed and clasped me as your bride.

The very weariness I feel to-night, love,
From years of toil with thee will not compare
In happiness with that gay, light existence
Of nursing vanity and shirking care.

I praise the one who trained my heart in hearing
The weight, the weariness of human woe,
Who gave the priceless halm of your devotion,
And taught my simple heart to love you so.

—Atlanta Constitution.

The second essential element in the placing-out system is thorough, constant, well organized and and therefore paid supervision of all foster-homes and of all the children placed or boarded out in those foster-homes. Without this investigation and supervision there is no limit to the abuse and degradation of childhood, which can and does follow upon placing a defenseless child in the absolute power of some grown person who may choose to apply for its custody. Many a girl placed out in a farmer's family, without sufficient investigation of the family conditions, has been the victim of some "hired man's" evil passion, or the coarse and hateful tyranny of some termagant woman. Many a boy has been sent to a distant spot, away from any possible friendly interference, to be overworked, whipped and kept from school, until his life-chances were ruined. If we cannot have the best, the wisest, the most constant and thorough inspection and supervision of the placed-out wards of the state and of society, let us keep all unfortunate children massed in institutions, where at least no gross cruelty or immorality could be long concealed. There is no such alternative, however, and there are shining examples of how best to care for these little ones, whom an unkind fate has deprived of natural nourishing by their own parents.

"If I can't have a truly home, I want another truly home," said one little child, who wistfully begged the kind woman visitor to "take her for her little girl." This should be the motto of enlightened charity in dealing with the wards of the state and of society: If not the "truly home" of nature, then the "truly home" of wise and loving transplanting.—The Woman's Journal.

THE CARVING-KNIFE'S EDGE

"If you can't have tender beef, the next best thing is a sharp knife," said a chop-house proprietor, "and a sharp knife and poor beef are much better than the best beef and a dull knife. I know that from years of experience."

The conversation turned to the subject of carving-knives, and the veteran said that "carvers" were harder to keep in order than the ordinary table-knives, because the one who carves does not make use of the steel as much as he should.

"It may be an acid in the beef, or it may be the moisture, or the heat, or all three," said the expert, "but there is something about hot roast beef that takes the edge off a knife and makes it rip where it should cut, and the fact that the knife is not affected that way by mutton or ham makes me think that the dullness is a result of the action of beef ingredients on the blade."

This view was confirmed by the proprietor, who said: "I have handled carving-knives as a manufacturer and at my table for many years, and I know that the best knives will not cut properly when used on hot roast beef unless the steel is used after every few cuts. The best way is to use the steel after every cut. The steel need not be rough, as some people imagine; in fact, a well-worn steel is better than one with a rough surface, and a few passes over it with the knife produces a good edge. The man who rubs and manipulates a carving-knife for five minutes against a steel before he begins to carve, and thinks that now he has it all right and may send the steel away, makes a great mistake. He should keep the steel handy, and pass the knife over it lightly a few times after every cut or two. And even then he will accomplish nothing unless he knows how to use the two instruments. A carver must be held at an angle of twenty to twenty-five degrees on the steel. One must be careful to have the angle the same on both sides, otherwise the knife will be made dull instead of sharp. The knife should be drawn on the steel from heel to point against the edge, and the pressure should be very light."

Cutters have certain rules for sharpening razors, pocket-knives, etc., as well as carving-knives. A razor must be laid flat on the hone, because it is hollow-ground and requires a fine edge. But a pocket-knife requires a stiff edge, and the moment you lay it flat on a stone, so as to touch the polished side, you injure the edge. It must be held at an angle of twenty to twenty-five degrees, and have an edge similar to a chisel.

HORSESHOES

In Japan most of the horses are shod with straw. Even the clumsiest of cart-horses wear straw shoes, which, in their cases, are tied around the ankle with straw rope and are made of the ordinary rice-straw, braided so as to form a sole for the foot about half an inch thick. These soles cost about a halfpenny a pair. In Iceland horses are shod with sheep's horn. In discussing this subject a writer in "The Horseshoer's Journal" says: "In the valley of the Upper Oxus the antlers of the mountain deer are used for the same purpose, the shoes being fastened with horn pins. In the Soudan the horses are shod with socks made of camel's skin. In Australia horseshoes are made of cowhide. A German not long ago invented a horseshoe of paper, prepared by saturating with oil, turpentine and other ingredients. Thin layers of such paper are glued to the hoof till the requisite thickness is attained, and the shoes thus made are durable and impenetrable by moisture."

IN CERTAIN parts of the world some species of locusts are eaten, and are considered a delicacy. The Arabs in the kingdom of Morocco boil them. The Bedouins roast them a little, then dry them in the sun, and pack them into large sacks with salt. Other inhabitants of the eastern countries, when bread is scarce, pulverize them and make a sort of bread of them.

THE CARE OF DEPENDENT CHILDREN

Humanity now recognizes that there is a social as well as a parental responsibility toward child-life. Societies for the dependent children are of three general classes—wayward, defective and merely unfortunate; that is, those who are deprived by death or wrongdoing or incompetency of parents of their natural home care. The wayward are cared for mostly in public institutions, either reform schools, industrial schools, so called, or departments of the prison system. The defective are now cared for in special institutions suited to their varying needs, as deaf-mute schools, schools for the blind, the feeble-minded and the crippled.

In proportion as a child is abnormal it needs care in some specialized institution, particularly designed in both discipline and instruction for the condition of that child; and in proportion as a child is normal in faculty and power, any sort of institution is unsuited to its nature, and nothing but a home—a real, private home—will give it the character-development it needs.

There are a few plain reasons why institutional care for normal or nearly normal children must always, even when it is at its best, fail to do for the child what is needed in order to fit it for life and life's demands:

1. The institution cannot teach the ways of the world, because its ways are quite contrary to those of the outside world, being arranged artificially for special and not general ends of life.

2. The institution cannot teach independence of character or strength of will, both so much demanded in later life, because the institution is and must be a routine-making machine, in which the individual is caught and held, and in which there may be rebellion or sweet resignation or even a blind happiness in being directed in every motion, but in which there can be no conscious choice and no struggle to obey self-made rules of conduct.

3. The institution prevents the natural development of the affectional nature. No matron of a "Home," spelled with a big "H," can love her forty children in care as she could love four or one; and no child who is a part of a family of from one to two hundred children can be conscious of personal relations, as if he were a part of a private family with its close ties and freer movement of attraction.

The "placing-out" system is bound, for these and other reasons, to take the place of institutional care in the case of normal or nearly normal children. And there are those at work now trying to determine how a bad boy can be dealt with helpfully in a private home, after he has spent a short preliminary term in a small reform school, and while still under pupillage by the state for wayward conduct. And there are also those who are trying to determine how "dull" and deficient a child may be safely and stimulatingly dealt with in a private home, away from the depressing influences of those less normal than itself.

Meanwhile, the babies who used to die off like butterflies in institutions are now saved in Massachusetts and other states by being boarded out, one baby to one foster-mother, so that the death-rate of dependent children in Massachusetts has lowered until it is but slightly in excess of that of babies in their own homes. Meanwhile, also, the tendency to place the older and average child-life under the natural conditions of normal family life grows stronger in all the states of our country.

Two elements must enter into the placing-out system, however, to make it safe and useful in the care of dependent children; two elements, without which that system is subject to even greater dangers and abuses than institutional care. These elements are, first, the capacity to board out as well as place children in free homes. There are never enough good free homes for little children unable to be of any service in the family, and the free homes must, therefore, be largely supplemented with boarding-places. To board a child out, however, is not more expensive than to care for it in an institution, when once the system is rightly and thoroughly established.

HAVE YOU WEAK LUNGS?

Every Sufferer from Lung Weakness, Consumption, Asthma, Catarrh or Bronchitis Can Be Cured



Nearly everybody you meet will regard it as a kind of insult to be asked if they have weak lungs. All seem to have a solid faith in the soundness of their own breathing machine. In cases of trouble they will admit there is a "heavy cold," "a touch of bronchitis," or even "a spell of asthma," but as to weak or unsound lungs, never, NEVER. Even the poor consumptive, who scarcely speaks without coughing, whose cheeks are wasted, hollow and bear the hectic flush of doom, will assure you with glistening eyes that his cold is on the mend and he will be all right when the weather changes.

It is simply terrible to think how far we may be guilty by our indifference to the lung troubles of those near and dear to us. It is also a sad thought that we may hug a delusion as to our own health that we only get rid of when life itself must pay the forfeit.

Nobody can afford to think lightly of lung troubles. Nobody can afford to be mistaken about their possible dangers. Nobody can afford to neglect them, or "let them wear out," or "get better in the spring," or any other tomfoolery that leads only to wreck and ruin. Lung troubles don't grow backward. Weak lungs don't grow strong by themselves—you must heal them and strengthen them, and rid them of the very earliest germs of disease, or you are simply committing a form of suicide. Either you

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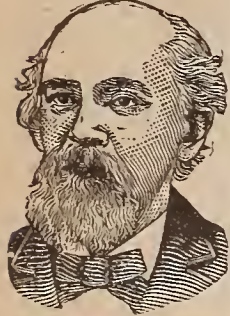
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AGENTS TO SELL WASHING MACHINES AND OTHER NOVELTIES. SOMETHING NEW FOR EVERY TERRITORY. CRYSTAL WASHING MACHINE CO., COLUMBUS, OHIO.
BED-WETTING CURED. Sample FREE.
Dr. F. E. May, Bloomington, Ill.

Free—A Wonderful Shrub—Cures Kidney and Bladder Diseases, Rheumatism, etc.



Mr. Calvin G. Bliss.

Disorders of the Kidneys and Bladder cause Bright's Disease, Rheumatism, Gravel, Pain in the Back, Bladder Disorders, difficult or too frequent passing water, Dropsy, etc. For these diseases a Positive Specific Cure is found in a new botanical discovery, the wonderful Kava-Kava Shrub, called by botanists, the *piper methysticum*, from the Ganges River, East India. It has the extraordinary record of 1,200 hospital cures in 30 days. It acts directly on the Kidneys, and cures by draining out of the Blood the poisonous Uric Acid, Lithates, etc., which cause the disease.

Rev. John H. Watson testifies in the *New York World*, that it saved him from the edge of the grave when dying of Kidney disease, and terrible suffering when passing water. Mr. Calvin G. Bliss, North Brookfield, Mass., testifies to his cure of long standing Rheumatism. Mr. Jos. Whitten, of Wolfboro, N. H., at the age of eighty-five, writes of his cure of Dropsy and swelling of the feet, Kidney disorder and Urinary difficulty. Many ladies, including Mrs. C. C. Fowler, Locktown, N. J., and Mrs. Sarah Sharp, Montclair, Ind., also testify to its wonderful curative powers in Kidney and allied disorders peculiar to womanhood.

That you may judge of the value of this Great Discovery for yourself, we will send you one Large Case by mail **FREE** only asking that when cured yourself you will recommend it to others. It is a Sure Specific and cannot fail. Address, The Church Kidney Cure Company, No. 409 Fourth Avenue, New York City.

\$5.49 ELGIN WATCH

Ladies or Gents size, stem wind and set.

WARRANTED 20 YEARS.

Elgin made movement in a 14 K. Gold plate hunting case, elegantly engraved. Fit for a king. No better watch made than an Elgin. Must be seen to be appreciated. Special Offer for the next 60 days, send us your full name and address and we will send this watch by express C. O. D. with privilege of examination. If found satisfactory pay the agent our special price, \$5.49 and express charges. A guarantee and beautiful chain and charm sent free with every watch. Write at once as this may not appear again. Address, ELGIN MFG. & IMPORTING CO., 334 Dearborn St., B161, Chicago

ELASTIC TRUSS RUPTURE CURED!

Worn night and day. Patented improvements, comfortable, safe. New full illustrated Book, telling all about Rupture, sent free, securely sealed. G. V. ROUSE MFG. CO., 141 Broadway, New York.

(Mention FARM AND FIRESIDE when writing.)

PARKER'S HAIR BALSAM

Cleanse and beautifies the hair. Promotes a luxuriant growth. Never Fails to Restore Gray Hair to its Youthful Color. Cures scalp diseases & hair falling. 50c, and \$1.00 at Druggists

\$3 a Day Sure

Send us your address and we will show you how to make \$3 a day absolutely sure, in the locality where you live. Send us your address and we will explain the business fully, remember we guarantee a clear profit of \$3 for every day's work, absolutely sure, write at once. ROYAL MANUFACTURING CO. Box 653, DETROIT, MICH.

LADIES I Make Big Wages AT HOME

and will gladly tell you all about my work. It's very pleasant and will easily pay \$18 weekly. This is no deception. I want no money and will gladly send full particulars to all sending 2c. stamp. MRS. A. H. WIGGINS, Box 20 Benton Harbor, Mich.

PHOTOS ONE CENT

29 Cent Photos for 15c, 12x23 for 25c, 12 1/2x40c, others 50c, 60c, 75c doz. Finest quality, ivory finish, heavy mounts, fancy border. Send your Photo, returned unharmed. Tin types copied. Sample & Ill. Catalog 2c. 4 fine samples 10c. Stamp Photos 16 for 25c. Photo Buttons 25c, 35c & 50c. SUNBEAM PHOTO CO., Dept. W, Buffalo, N. Y.

CORNS

removed with "Positive" Corn Cure. Never return. No acid, no cutting, no pain. By Mail, 25 cts. Medicated Rubber Co., 30 Hog Blk., Cleveland, Ohio.

OPIUM

and Liquor Habit cured in 10 to 20 days. No pay till cured. Dr. J. L. Stephens, Dept. L, Lebanon, Ohio.

POOR Baby!

You hear those words so often. Baby comes into a world full of trouble, often handicapped at the very start by being deprived of its mother's breast. Sometimes poor baby suffers for months with stomach troubles before mamma knows about the "Davidson's Health Nipple." Colic makes a good many "bottle babies" cry all the time they are awake, and nine times in ten, it's caused by the nipple, because it either collapses in feeding and baby sucks wind, or it can't be kept clean and sweet, and then baby is poisoned with fermented food. The "nipple with a collar" will prevent most of baby's stomach troubles, and nasty medicine won't have to be given for relief. If you would like to know how to keep baby well, fat, and happy, send for Vol. XII.

"MOTHER'S FREE LIBRARY" sent free for 2 cents postage.

DAVIDSON RUBBER CO., Boston, Mass.

We will send a sample of the "Davidson Health Nipple" for two cents postage.

All dealers sell Davidson's Family Rubber Goods.

SMILES

PUZZLED

It's funny that my pa can do So many things I can't— At least, I don't when he's aroun', Because he sez I sha'n't. So I'm a-savin' up a lot To do when I'm a man. 'Twould 'commode me, too, if he Would tell when he began.

There's 'bout a hundred words, all worse Than "darn it!" or "I bet!" Pa sez 'em, but I can't. I guess I am too young as yet. An' pa smokes big cigars; I can't. One day he caught me in The woodshed with a cigarette An' walloped me like sin.

Las' night when ma wuz snugglin' me She asked me what I'd do When I'm a man; an' then I 'splained The things I've told to you. An' she said: "Dearie, don't be like Majority of men—" But if I can't when I am big, Please say when can I, then? —Edwin L. Sabin, in Puck.

A BOY'S ESSAY ON HORNETS

A HORNET is the smartest bug that flies anywhere. He comes when he pleases, and he goes when he gets ready. One way a hornet shows his smartness is by attending to his own business, and making everybody who interferes with him wish they had done the same thing.

When a hornet stings a fellow he knows it, and never stops talking about it as long as his friends will listen to him. One day a hornet stung my pa (my pa is a preacher) on the nose, and he did not do any pastoral visiting for a month without talking about that hornet.

Another way a hornet shows his smartness is by not procrastinating. If he has any business with you he will attend to it at once, and then leaves you to think it over to yourself. He don't do like the mosquito, who comes fooling around for half an hour singing "cousin, cousin," and when he has bled you all he can, dash away, yelling, "No kin." A hornet never bleeds you; but if he sticks you, you will go off on a swell.

I don't know anything more about hornets, only that Josh Billings says: "A hornet is an inflammable (Josh was a poor speller) buzzer, sudden in his impreshuns, and rather hasty in his conclusions, or end."

SO FRENCHY, YOU KNOW

An elaborately gowned woman with an accent as conspicuously District of Columbia as her bonnet was Parisian was looking over the new books in a famous book-shop down on the avenue the other day. She was accompanied by a friend with a similar accent and a similar species of bonnet. One book seemed to touch her fancy.

"What is the price of this book?" said she to the salesman.

"Two dollars," he replied.

"Two dollars!" repeated the elaborately gowned lady with an air of being really puzzled, don't you know. "Two dollars! Won't you tell me how many francs that is? I've been so used to the French money I really can't remember how much it is. Is it eight or ten francs?"

But then, you know, we Americans are so adaptable. She had been abroad six months.—Washington Star.

WHAT WOULD YOU HAVE DONE

"You see, my daughter Harriet is married to one o' these homeypath doctors, and my daughter Kate to an allypath," said a perplexed old lady.

"If I call in the homeypath, my allypath son-in-law an' his wife git mad; an' if I call in my allypath son-in-law, my homeypath son-in-law an' his wife git mad; an' if I go ahead an' git well without either o' 'em, then they'll both be mad; an' I don't see but I'd better die outright."

THE 'MOTHER'S' 'OLOGIES

A girl who had been very clever at college came home the other day, and said to her mother:

"Mother, I've graduated; but now I must inform myself in psychology, philology, bibli—"

"Just wait a minute," said the mother. "I have arranged for you a thorough course in roastology, boilogy, stichology, darnology, patchology and general domesticology. Now get on your apron and pluck that chicken."

A CURE FOR VANITY

Jinkers—"That man is the most insufferable lump of conceit that ever trod the earth. I wish he could be elected President of the United States."

Winkers—"You do? Why?"

Jinkers—"The newspapers would make him sick of himself."—New York Weekly.

A LUCID PARAGRAPH

There was trouble of some kind reported the other night, and the editor told the new reporter to go over and get the details. He got them, as may be seen from his account of the affair, which is as follows: "A man killed a dog belonging to another man. The son of the man whose dog was killed proceeded to whip the man who killed the dog of the man he was the son of. The man who was the son of the man whose dog was killed was arrested on complaint of the man who was assaulted by the son of the man whose dog the man who was assaulted had killed."

SHE KNEW

Cyclist (to sleepy villager)—"Are you a native of this village?"

Villager—"Am I what?"

Cyclist—"Are you a native of this village?"

Villager—"Hey?"

Cyclist—"I asked if you were a native of this place."

Mrs. Villager (appearing at the door, acridly)—"Ain't you got no sense, Jim? He means wuz ye livin' here when yer wuz born, or wuz ye born before ye begun livin' here. Now, answer 'im."

MORE DRESSED UP

Dorothy's father had decided to buy a horse, and had brought two home to try. One of them had broad bands of white hair on the front legs, just above the hoofs.

"Oh, dear!" exclaimed Dorothy, mournfully, when this one was returned to its owner, "I don't see why papa didn't buy the one with cuffs on."

THE MAIN ATTRACTION

Mama—"Well, Gracie dear, whom did you see at Sunday-school?"

Gracie—"Oh, everybody, mama, but Jesus, and they said he was out calling."

The song they sang was, "Jesus is calling, calling to-day."

THE COW'S GRIEF

Lady (to milkman)—"How is it that your milk is so poor and thin?"

Milkman—"Why, mum, the cow 'as just lost 'er calf, an' she shed a few tears in the pail afore I could prevent her."—Tid-Bits.

DRUGS GONE WRONG

"Johnny, did you take your cough medicine regularly in school, as I told you?"

"No'm; Johnny Budds liked it, an' he gimme an apple fer it."

LITTLE BITS

A man at a hotel fell the whole length of a flight of stairs. Servants rushed to pick him up. They asked him if he was hurt. "No," he replied, "not at all. I'm used to coming down that way. I'm a life-insurance agent."

"I want to ask one more question," said little Frank, as he was being put to bed.

"Well," acquiesced the tired mama.

"When holes come in stockings, what becomes of the piece of stocking that was there before the hole came?"

Mr. Spriggins (gently)—"My dear, a Washington man was shot by a burglar, and his life was saved by a button which the bullet struck."

Mrs. Spriggins—"Well, what of it?"

Mr. Spriggins (meekly)—"Nothing; only the button must have been on."—New York Weekly.

The other day, as two friends were talking together in the street, a donkey began to bray and wheeze and cough in a distressing manner.

"What a cold that donkey has," said one of the men. "And by the way, tbat puts me in mind—how is your cough?"—Cincinnati Enquirer.

Postal-clerk—"This letter is over weight, ma'am. You'll have to put another stamp on it."

Woman—"I think the government is just too mean for anything. I know I've mailed hundreds of letters that weren't anywhere near full weight, so I think the least you can do is to let this one go through."

Doctor (to Gilbert, aged four)—"Put your tongue out, dear."

Little Gilbert protruded the tip of his tongue.

Doctor—"No, no; put it right out."

The little fellow shook his head weakly and the tears gathered in his eyes.

"I can't, doctor; it's fastened onto me."

In a well-known college in the United States an old negro called Tim had waited on the students for many years. He was not without his peccadilloes in the way of petty larceny, and caught tripping on one occasion by one of his employers he was gently reproved. "Ah, old fellow, you are bound for the devil! What are you going to do, sir, when you get down in his regions?"

"I dunno, Mars Ed," answered Tim, "dounten I jes keep on waitin' on de students!"

Put Your Finger on Your Pulse

You feel the blood rushing along. But what kind of blood? That is the question. Is it pure blood or impure blood? If the blood is impure then you are weak and languid; your appetite is poor and your digestion is weak. You cannot sleep well and the morning finds you unprepared for the work of the day. Your cheeks are pale and your complexion is sallow. You are troubled with pimples, boils, or some eruption of the skin. Why not purify your blood?



will do it. Take it a few days and then put your finger on your pulse again. You can feel the difference. It is stronger and your circulation better. Send for our book on Impure Blood.

If you are bilious, take Ayer's Pills. They greatly aid the Sarsaparilla. They cure constipation also.

Write to our Doctors.

Write them freely all the particulars in your case. You will receive a prompt reply, without cost.

Address, DR. J. C. AYER, Lowell, Mass.

Eagle Dollar Watch..

Cut about half size.

A Workingman's Watch, made to stand hard usage, wear well and keep perfect time. It is better for outdoor use than a high-priced watch, because its mechanism is not as delicate, and it is less liable to get out of order.

The Eagle is a handsome, full nickeled, well made time-piece, warranted one year. Sent post-paid for one dollar. Your money back if you're not satisfied.

J. A. Foster Company,

Incorporated \$275,000 Capital.

22-28 Dorrance St., PROVIDENCE, R. I.

Any Initial Desired.

B 10c. H

This is a fine SOLID GOLD plated initial ring, enamelled in black around the initial and is fully worth \$1.00. We shall give away 5,000 of these to advertise our business. Send 10 cents to pay postage and packing. Send size.

CURTIN JEWELRY CO., Attleboro, Mass.

FENCE Machine \$1.50 Prepaid. ALL IRON. 40 ROPS A DAY. Circulars free. Agents wanted. MORROW FENCE MACHINE CO., White Hall, Ill.

MISCELLANY

Is there any difference between 'sick' and 'ill'?

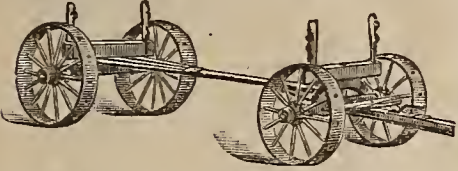
Why, it's just like this: the man who gets sick sends for a doctor, while the man who becomes ill summons a physcian.

Common-sense will tell you to avoid experiments with a dangerous cold. You ought to take the well-known remedy—Jayne's Expectorant.

ANTHRACITE coal, which, except the diamond, the purest form of carbon known, was first used by a Connecticut blacksmith named Gore, in 1768, and as a domestic fuel by Judge Jesse Fell, of Wilkesbarre, Pa., in 1808.

FARM WAGON FOR ONLY \$19.95

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Co., Quincy, Ill., has placed upon the market a Farmer's Handy Wagon, sold at the low price of \$19.95. The wagon is only 25 inches high, fitted with 24 and 30 inch wheels with 4 inch tire.



This wagon is made of best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

It has been computed by geographers that if the sea were emptied of its waters and all the rivers of the earth were to pour their present floods into the vacant space, allowing nothing for evaporation, 40,000 years would be required to bring the water of the ocean up to its present level.

RAILROAD PALACES

The new Pullman Palace Sleeping Cars, built specially for the Union Pacific and recently put in service on their famous fast trains between Chicago, Colorado, Utah, California and Oregon points, are the finest ever turned out.

Throughout the interior the drapings, wood-work and decorations are in the most artistic style, and the conveniences vastly superior to anything ever seen before.

These cars are attached to the Union Pacific fast trains, which make quicker time to all Western points than trains of any other line.

For time tables or any information apply to your local agent, who can sell you a ticket via the Union Pacific, or address A. G. Shearman, Gen. Agt. Pass. Dep't, U. P. R. Co., Room 36, Carew Bldg, Cincinnati, O.

Few of us but remember seeing our nurses tie knots in their bandanas to help them remember things. It seems that this custom had its origin in China thousands of years ago. Before writing was invented in that country, which did not happen until 3000 B. C., memorable and important events were recorded by long knotted cords. The most ancient history of China is still preserved as told by these knots.

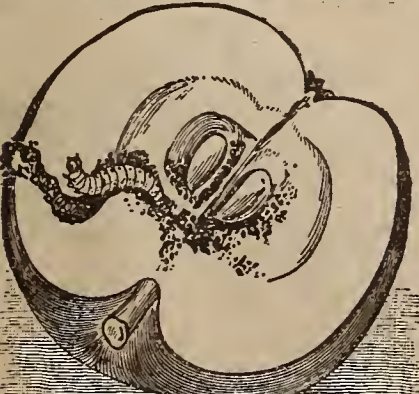
THE WHITE MAN'S BURDEN

Is paying rent for a poor farm. Now is the time to secure a good farm on the line of the Chicago, Milwaukee & St. Paul Railway in Marinette County, Wisconsin, where the crops are of the best, work plenty, fine markets, excellent climate, pure soft water, land sold cheap and on long time. Why rent a farm when you can buy one for less than you pay for rent? Address C. E. Rollins, Land Agent, 161 La Salle Street, Chicago, Ill.

The average weight of the brain of a man is three pounds eight ounces; of a woman, two pounds four ounces. The woman's brain begins to decline in weight after the age of thirty, and man's not till ten years later. According to high authorities, the nerves, with their branches and minute ramifications connecting with the brain, exceed 10,000,000 in number.

SPRAYING FRUIT-TREES

The question of spraying fruit-trees to prevent the depredations of insect pests and fungous diseases is no longer an experiment, but a necessity.



Our readers will do well to write Wm. Stahl, Quincy, Illinois, and get his catalogue describing twenty-one styles of Spraying Outfits and full treatise on spraying the different fruit and vegetable crops, which contains much valuable information, and may be had for the asking.

Hot Biscuits for Breakfast

are best when made with Wyandotte Baking Soda. This soda makes lighter, fluffier and daintier biscuits than any other baking soda made. It is also the easiest and most economical leavening power to use in baking. If you have plenty of sour milk you should always use

Wyandotte Baking Soda

A package of Wyandotte Baking Soda costs five cents, and it is the largest five-cent package ever sold. You can get it at your grocer's. If not, write for a free coupon which will entitle you to a full-size package free.

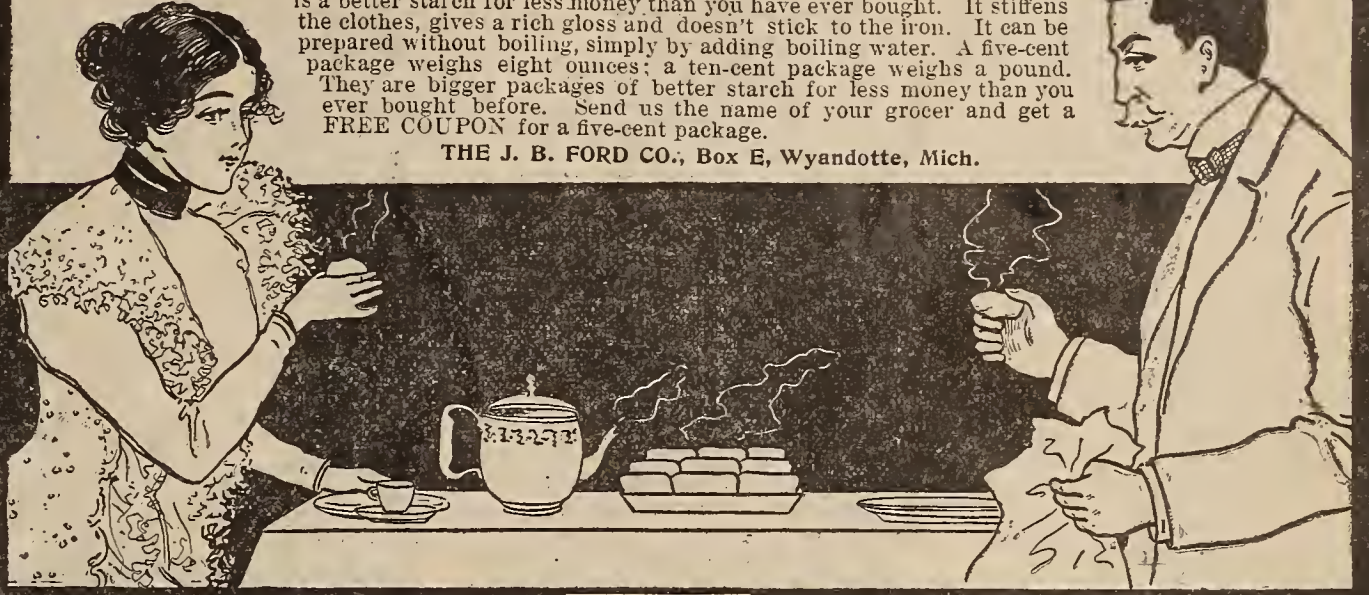
WYANDOTTE WASHING SODA

is the soda that cleans without hurting the clothes. A pound-and-a-half package costs five cents—the largest package ever sold for five cents. A coupon good on your grocer for one five-cent package, free, sent on request in return for the name of your grocer.

BELL STARCH

is a better starch for less money than you have ever bought. It stiffens the clothes, gives a rich gloss and doesn't stick to the iron. It can be prepared without boiling, simply by adding boiling water. A five-cent package weighs eight ounces; a ten-cent package weighs a pound. They are bigger packages of better starch for less money than you ever bought before. Send us the name of your grocer and get a FREE COUPON for a five-cent package.

THE J. B. FORD CO., Box E, Wyandotte, Mich.



CHARLES AUSTIN BATES N.Y.

WE SAVE FARMERS 40 PER CENT ON THEIR FERTILIZERS

We sell you direct—Actually pay you salesman's expenses and agent's profit. Write for free sample and book. THE SCIENTIFIC FERTILIZER CO., PITTSBURG, PA.

Advertisement for Julius Hines & Son, Baltimore, Md., featuring a suit illustration and text: 'AT OUR PRESENT PRICES You can buy the best of goods at what ordinarily you pay for the poor kind... Our Clothing Catalogue tells about made-to-your-measure suits, guaranteed to fit, as low as \$5.75, as high as \$15.00. Free Cloth Samples. We pay expressage on clothing.' Includes a 'NEW DESIGNS' logo.

Advertisement for Vapo Medicator Co., Boston, Mass., with text: 'WILL GIVE \$1,000 IN GOLD AS PRIZES For the purpose of advertising the wonderful curative and disease preventive qualities of the Vapo Medicator... PERSONS NEEDING ASSISTANCE in the preparation of debates, essays, etc., address Am. Col. Agency, 171 La Salle St., Chicago.'

Advertisement for Hensch & Dromgold's Force Feed Grain & Fertilizer Drill, featuring an illustration of a drill and text: 'Positively the neatest, lightest, and strongest grain drill on the market... tively accurate in quantity. Give one a trial and be convinced. Agents wanted, Circulars free. Address HENSCH & DROMGOLD, B'rs., York, Pa.'

SIX SILVER-PLATED NUT-PICKS

These silver-plated nut-picks sell in jewelry-stores for 50 cents a set and upward, but by contracting with the manufacturers for an enormous number of sets we bought them at a price which enables us to make the very liberal offer below. The reduced illustration shows the set in box.



These silver-plated nut-picks are five inches long, made of fine steel, and silver-plated. They have handsomely turned handles, and are one of the most popular styles. Every family needs a set of nut-picks.

Each set of these silver-plated nut-picks comes in a cloth-lined box which measures 5 1/2 inches long, 3 inches wide and 5/8 of an inch thick. They make a handsome as well as a useful present.

Premium No. 125 FREE This Set of Six Silver-plated Nut-picks Given FREE for a club of TWO yearly subscribers to the Farm and Fireside. We will send the Farm and Fireside one year and this Set of Six Silver-plated Nut-picks for 50 cents. 50 Cents Exact Size. (When this offer is accepted the name may be counted in a club.) Postage paid by us. Address FARM AND FIRESIDE, Springfield, Ohio.

Advertisement for Our New Steel Frame CORN PLANTER with FERTILIZER ATTACHMENT. Features an illustration of the planter and text: 'with FERTILIZER ATTACHMENT. For simplicity, neatness strength and durability cannot be equalled. We also manufacture Circular Saw Mills, Cultivators, Grain Drills, Thrashers, Engines, and all kinds of Agricultural Implements. Sold by all reliable dealers. Don't be deceived. Insist upon having our goods. Agents wanted. Catalogue free. HENSCH & DROMGOLD, YORK, PA.'

Advertisement for Do Your Own Sheep? featuring a sheep illustration and text: 'Let us send you a little book FREE showing how to protect your Sheep from Dogs by using our HERO SHEEP COLLAR. The cost is trifling, and it always does the work. Your name on a postal card will get the book. WELLINGTON MFG. CO., Indianapolis, Ind.'

Advertisement for \$60 Sewing Machines for \$18. Features an illustration of a sewing machine and text: 'We sell every reliable Sewing Machine made. We employ no agents, pay no commissions, which enables us to save you from \$25 to \$40 on any Sewing Machine you may select. All machines brand new, guaranteed latest improved, with all attachments, and warranted for 10 years. (Satisfaction guaranteed or money refunded.) Our illustrated catalogue gives full particulars, and will be mailed free. Address: J. N. HOOK & CO., N. 1351 Central Ave. CINCINNATI, O.'

Advertisement for WALL PAPER featuring a girl illustration and text: 'Send for free sample book of beautiful designs direct from manufacturers and save 25 per cent. Agents Wanted. KAYSER & ALLMAN, 1214-1216 Market St., Phila., Pa.'

SELECTIONS

SUGGESTIONS ON WHITEWASHING

WELL wash the ceiling by wetting it twice with water, laying on as much as can well be floated on, then rub the old color up with a stumpy brush, and wipe off with a large sponge. When this is done, stop all cracks with whitening and plaster of Paris. When dry, claricole with size and a little of the whitewash. If very much stained, when this is dry paint those parts with turps, color, and if necessary claricole again. To make the whitewash, take a dozen pounds of whitening (in large balls), break them up in a pail, and cover with water to soak. During this time melt over a slow fire four pounds of common size, and at the same time, with a palette-knife or small trowel, rub up fine about a dessert-spoonful of blue-black with water to a fine paste; then pour the water off the top of the whitening, and with a stick stir in the black; when well mixed stir in the melted size, and strain. When cold it is fit for use. If the jelly is too stiff for use, beat it well up and add a little cold water. Commence whitewashing over the window and so work from the light; lay off the work into that done, and not all in one direction, as in painting. Distemper color of any tint may be made by using any other color instead of the blue-black—as ochre, chrome, Dutch pink, raw sienna for yellows and buff; Venetian red, burnt sienna, Indian red or purple brown for reds; celestial blue, ultramarine, indigo for blues; red and blue for purple, gray or lavender; red lead and chrome for orange; Brunswick green for greens.—The Decorator's Gazette.

STREET-RAILWAY DATA

A street-railway journal gives some amusing data on the greatness and possibilities of the electric railway. It is shown that every day the street-cars in the United States carry as many passengers as there are inhabitants in Greater New York, Chicago, Philadelphia and Boston. To purchase the street-railways would take all of the \$525,500,000 of gold, the \$120,000,000 of silver, the \$400,000,000 of certificates, the \$225,000,000 of national-bank notes, and the \$250,000,000 of United States treasury notes in circulation. If the street-railways were to be sold the sum realized would easily pay the debt of the United States. The street-railways carry every year not less than 2,660,000,000 passengers, as against the 535,000,000 carried annually on the 182,000 miles of steam roads in the States. The average electric car travels 120 miles a day; each of its wheels makes 84,500 revolutions, and in the course of a year passes over 8,000,000 rail-joints. Yet with all this constant wear and opportunity for accident and breakage, a passenger is as safe on a trolley-car as in the retirement of his own home. Only one in 23,000,000 passengers is killed, and only one in 800,000 is injured in any way. A statistician who delights in curious problems has been calculating that if a man were to spend his time on the street-cars waiting for a chance to present a damage claim against the company, he would have to travel one hour a day for thirty-one years, and spend \$1,130 in car-fare, before he would be hurt. Before his time for being killed would come he would be a patriarch of five and a half centuries, having been continually on the cars, night and day.

THE AGE OF AN OYSTER

He who wishes may find out the exact age of an oyster, though he has not the telltale evidence in teeth. The lines in the groove of the hinge of the shell tell the whole story, each line representing a year. An oyster is of age at four years; that is, he is old enough to vote, take care of a family and go to market. Going to market is a disastrous undertaking for a four-year-old oyster if particularly palatable. By this it must not be supposed that after an oyster has passed the four-layer period and has five, six or even ten wrinkles on his shell he is a back number. Indeed, there are records of oysters being eaten just after celebrating their thirtieth birthday, and in most cases they formed a delicious meal. Thirty is an unusual age for an oyster to attain, because few are given an opportunity to live so long. If left to enjoy life in his own way, it is quite probable that the oyster would become an octogenarian or even a centenarian.

Captain Cochran on his last trip to Fulton market brought in an oyster found on his beds that is believed to be at least thirty-five years old.—Fishing Gazette.

SOME BIG COUNTIES

Between the Rocky mountains and the Atlantic there are a dozen counties that contain more than 5,000 square miles. One of these is Aroostook, the northeastern county of Maine, which has an area of 6,800 square miles, but little less than that of the whole of Wales, and forty-two times that of the Republic of Andorra. Another is Dade county, Florida, in which are the Florida Everglades. This has an area of 5,600 square miles, which is about the same as that of Cherry county, Nebraska. In the state of Minnesota we find three counties, Beltrami, Itasca and St. Louis, each of which covers more than 5,000 square miles. St. Louis county contains the city of Duluth, which has more than 35,000 inhabitants. In Idaho we have two counties, Idaho and Bingham, which cover an area of more than 10,000 square miles each. Pecos and El Paso counties in Texas contain 16,000 square miles. Arapahoe county, Colorado, has 5,250 square miles, a part of which is made up of the area covered by the city of Denver. Routt county covers 6,000 square miles. In Oregon are six counties, in Washington three, in Nevada seven, and in California seven that have each more than 5,000 square miles. The largest county in the United States is San Bernardino, east of Los Angeles, California. It covers 21,000 square miles, an area 5,000 miles larger than that of New Jersey, Delaware, Connecticut and Rhode Island combined, or half the area of the state of New York.—Harper's Young People.

A HUGE UMBRELLA

One of the latest plans submitted to the exhibition commissioners is that for the construction of a colossal umbrella. The ingenious person who proposes this so-called cloud is a Mme. Percha Giverne, who keeps a walking-stick and gingham emporium in the Rue de Turbigo. Her exhibition umbrella, or parasol, as she terms it, is intended as a shelter for persons unable to find room in the cafes of the universal fair during a shower of rain or in bad weather generally. The handle of the gigantic gingham would be a hollow metal column, with landings and cafes thereon, and also theaters or music-halls. On the top, over the covering or umbrella proper, which would be garnished with colored lamps, Mme. Percha Giverne suggests that a cupola containing a restaurant should be put. She also proposes that the cupola in question should revolve, thus allowing people, while eating their luncheons or dinners, to get a bird's-eye view of the different parts of the exhibition. There is, of course, to be no climbing in this umbrella tower, as lifts could be arranged something after the Eiffel plan. The commissioners have been so interested in the colossal umbrella project that they have sent it for examination to the members of the committee for the admission of private plans, who will have to see if the thing can be carried out as a practical scheme, and if sufficient space can be afforded for it in the Champ de Mars.

THE BANK CLERK WAS ANSWERED

An old Pennsylvania farmer recently came into possession of a check for \$200. He had little experience with checks, and for a long time he could not muster up the courage to have it cashed. Finally, while on a trip to Philadelphia, he summoned up nerve enough, and strolling into the bank, presented the check.

The teller glanced at it hastily, and then, after the fashion of his kind, brusquely asked:

"What denomination?"
"Lutheran, gol darn it! But what's that got tew do with it?" as brusquely replied the old farmer, to the great astonishment of the bank official and bystanders.—Saturday Evening Post.

A GLUE CEMENT

This is unrivaled for cementing paper, cloth, leather, earthenware, wood, etc. Soak one pound of whitefish glue for four hours in thirty fluid ounces of cold water; turn into a glue-pot and slowly stir in four ounces of dry white lead previously mixed in two fluid ounces of hot water. Place the glue-pot over the fire for ten minutes; then allow the contents to cool to about 100 degrees Fahrenheit. This temperature achieved, stir in vigorously four fluid ounces of ninety-percent alcohol, and the cement is complete. It will dry very rapidly when applied to any material, is nonelastic and extremely hard. Should it be required pliable, add from two to four ounces of glycerin.

Afternoons Off. Tied down to housework, to the scrubbing brush and bucket, to the dish pan and housecloth, is the condition of the woman who still uses soap in her cleaning. On the other hand the woman who uses Gold Dust has her work all done by noon, does as she pleases in the afternoon. With Gold Dust she does her cleaning with half the effort, in half the time and at half the cost as with soap or any other cleanser. For greatest economy buy our large package.

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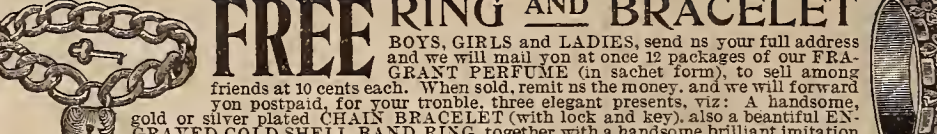
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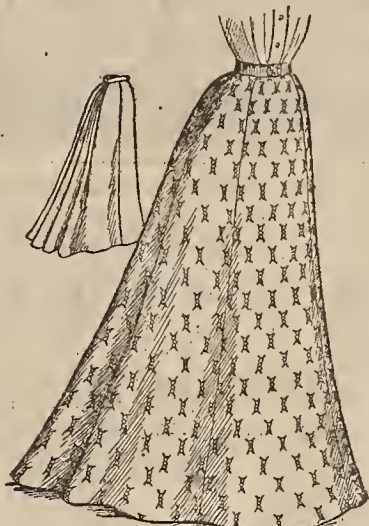
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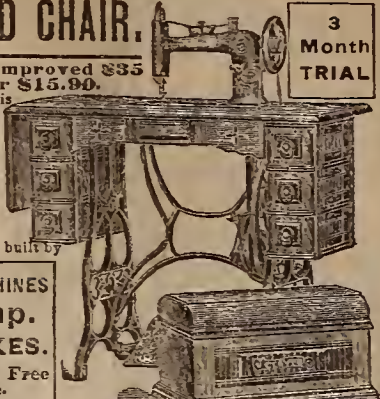
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2 Raste	4 Ysnap	6 Glnmorn Gorryl	8 Uns Wolfer

EVERYBODY IS GUARANTEED A PRIZE
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REMEMBER the contestant naming the Entire List of Eight Flowers correctly will receive **\$250.00**

The contestant sending nearest the full correct list will receive \$50.00; the next nearest, \$25.00; the next nearest, \$19.00. All others who name correctly at least four flowers WILL RECEIVE A HANDSOME PRIZE. If two or more contestants tie for any of the larger prizes, the prizes will be EQUALLY DIVIDED. There is only one condition, the same to all who enter, of which you will be promptly notified by mail, if successful. DO NOT SEND MONEY WITH YOUR ANSWER.

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As soon as possible after your answer can be reached after its receipt by us, it will be given in charge of the Awarders for examination as to its correctness. They will receive direct from the Awarders their report in a Sealed Envelope. Could Anything be Fairer? Send in your list at once, together with a plainly written, self-addressed, stamped envelope, and win one of these Fine Prizes. Contest closes July 4th. Write your name and full address very plainly.

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EXPERT SUIT TAILORS will make the suit in the latest sack style to fit perfectly; line it with Holman's celebrated fabric, pipe it with Skinner's AAA satin, pad it extra well, use best grade of canvass, and sew every seam with pure silk and linen thread.

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VOL. XXII. NO. 16

EASTERN EDITION

MAY 15, 1899

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TERMS { 50 CENTS A YEAR
24 NUMBERS

WOMEN'S WORK AND PLACE IN EUROPEAN LIFE

BY EDWARD A. STEINER

MANY thousands of American farmers' wives and daughters will at least begin to read this article. I can see them by their firesides, in comfortable rocking-chairs, some of them surrounded by the luxuries of life, and all of them by its comforts.

Granting that both are missing, that some farmer's wife has snatched a minute from her too busy day, and is turning these leaves by the flickering light of a poor lamp, and can scarce read them because there are tears in her eyes, and grave anxiety in her heart, and weariness in her limbs. Perhaps she feels the pinching pangs of poverty, or maybe some storm-cloud is hanging over the domestic horizon and she feels how hard is the lot of the farmer's wife or daughter. Such a one I want to take on a trip among the women of her class on the European continent, and I am sure she will come back praying the prayer of the Jewish woman, "I thank thee, O Lord God! that thou hast made me what I am!"

Come with me, then, to Russia, and as you see your sister in her coarse lincn garb, feminine-like you ask, "What is that?" pointing to a sort of handle just near her waist-line. That is called the "okuo," and is especially made that the husband may conveniently take hold of his wife and give her a graceful whipping. In fact, she expects her beating as regularly as you do your bonnet, with this slight difference—that she does not have to coax as much for it. If you wait with me till Sunday, when the inns are full of peasants and the peasants are full of "palenka," you will see a brave little woman come to the door of the driking-place, and with timid voice ask her liege lord to come home to his bake-oven and his cabbage soup, and the reply she will receive is unprintable, and the beating she gets, if she persists in her invitation, is unmerciful.

Among the southern Slavs the girl is so much stock in trade and sold to the highest bidder. She invariably does all the hardest work. She drives the donkeys to market; she helps to pull the plow by the side of the donkey, while the stupid ass of a husband is driving them both. As you look at these poor, haggard, broken-down, toothless women you would like to jump into the field, kick the brute of a husband, hitch him to the plow and make him pull. My dear sisters, that

might work in America, but it is not the European plan.

The proverbs current among the peasants will prove the position a woman occupies among the Slavs better than the report of any traveler, no matter how trustworthy he may be. I have translated a few of them for you. Here they are:

"Beat your wife and your horse if you want them to obey you."

"Swing your cane against a dog, but beat with it your daughter."

"The wine is to drink, a woman to be beaten."

"Hit the wife and the snake in the head."

That you may see how these things look in Slavic I will give one in the original.

"Ko zenu ne bije onj covjek nye." (He who does not beat his wife is no man.)

A son asks his father, "What must I get before I marry?" The answer is, "For your wife a rod, for your children a switch."

You ask an old man, "What is the best tool you have used in your life?" He answers, "A rod. As a boy I used it against dogs, as a man against my wife, and now it is my third foot."

The only person in a Russian village who treats his wife well is the priest, and that not because he is so good, but because he is permitted to marry but once, and if he should hasten his wife's death by such cruelties he would have to remain a faithful widower during the rest of his earthly pilgrimage.

In public at least no husband sheds any tears for his wife, the outward sign of mourning being a piece of crape worn around his arm, and that disappears as soon as he marries another wife, which often occurs in two months after he has buried his first one.

A woman asks her husband in our hearing, "Do you love me better now after I have borne you so many beautiful children or did you love me better before?" To which he ungallantly replies, "I would have loved you best if I had not married you at all."

As a lovely maiden full of grace and beauty she has given herself to the lad; she mothered his children; she did all of the domestic and much of the field work. Her beauty fades in a summer's night, her eyes are without luster, her cheeks are sunken, she walks bent and crooked, and the husband no more recognizes her; she has grown a burden to him. When she dies he says, "Twice in his life is a man happy; once when he marries his wife, and again when he buries her." Millions of Slavic women live lives little short of slavery,

scarcely as well off as their Mohammedan sisters, who do not work, but are like birds in a golden cage, not seldom doing some pecking, for the Turkish husband, contrary to our notion, is the most henpecked husband in the world. Henpecked not by one, but often by half a dozen of them. Don't you pity him?

Let us go into Austria. Here even among the refined classes the position of a woman is but little short of that of a servant. She blackens her husband's boots should they have no servant; she carries the baggage and the baby, while he walks twirling his cane. The woman's place, he often says, is at home with the children, while he carouses till midnight. You can see girls scarcely out of their teens working on the tallest buildings, carrying brick and mortar for about twenty cents a day.

Digging ditches, wheeling and carrying heavy loads, breaking stones



on the road, making brick—all this work you may see performed by women, and the highways are full of them, with a heavy basket on their backs. They are not unhappy; they sing at their task; they do weep when beaten by their husbands or lovers, but only because it hurts.

In refined society the man at the table is always

helped first, he receives the choicest bits, and is as much spoiled as his sister is on this side of the Atlantic. Girls in Austria seldom marry without bringing a large sum of money to their husbands. Their coffers have to be full of the finest linens, they have to furnish the house, and the husband usually starts his business on the money his wife brings him. This is true more or less of all the continental countries, and marriage on the European plan is no failure—for the man. You miss being helped into and out of the car or carriage, unless you have bribed the conductor or coachman into politeness. No Austrian or even German husband will admit that his wife is his equal intellectually, and usually she is not. The reciprocal relation which usually exists in America is practically unknown among certain classes, and a woman is either a toy or a tool, according to her age or her beauty. The peace which is the chief charm of many of our homes is often absent, and as a Viennese lady told me, "We quarrel as regularly as we say 'Amen' to our prayers."

I would not have you think, though, that there are not thousands and hundreds of thousands of happy homes; there are, but I think that in nearly every one of them the wife is subordinate to her husband, and

accepts this fact with good grace, and generally speaking, feels herself happy, because, poor thing, she doesn't know any better. Should you and I be visiting over there, say in Vienna, in Berlin, in country or city, and if I should be as attentive to you as an American gentleman is supposed to be to a lady, I should find myself ridiculed at every step, and you, my dear lady, would carry your own packages to the station, unless you would hire somebody to do it for you. If I should forget anything, as I usually do, you would trot back and fetch it for me, and you would take a back seat generally unless you were reputed to be very rich or you were very young and beautiful. You would be astonished how much attention you would receive then, and you would be shocked at the easy morals of the men and their unguarded speech. Should you have a strain of good blue Puritanic blood in you, you would have a dozen fits (using figurative language) in an hour, and the men would all vote you decidedly prudish. I venture to say, my dear lady, that after six months, especially if we have traveled among farmers and toilers, you would be more than glad to return to the paradise of women—"America." Coming home you will vow that you will keep yourself worthy of the high place you occupy; you will jealously watch over the purity of your home; you will try to be more and more a true helpmeet to your husband; you will fret less and less if things are not just exactly as they ought to be; you will rejoice even in hardships and tribulations, and you will cherish more and more your Puritan faith which has given you the exalted place you occupy. You will try to enlarge the circle of your true usefulness; you will be heroic, and thus compel men to respect you, not only because you are a woman, but because you are a great woman, brave, intelligent, faithful, and last but not least, beautiful. Being great, you will be instrumental in the development of great men; you will not waste your strength on trifles, but you will use it for the enrichment of life. Upon this generation of women rests the obligation to perpetuate the place woman occupies in human society.

If you become weak, morally and intellectually, good men will pity you, and bad men will despise you. Man has no respect for a mere female; he does, and his nature compels him to respect a true woman. No man worships a dressmaker's form or a chatterbox or even a machine, no matter how useful or ornamental; he does worship a true woman. I have, I think, carefully studied the women

[CONCLUDED ON PAGE 6 OF THIS ISSUE]



FARM AND FIRESIDE

PUBLISHED BY THE CROWELL & KIRKPATRICK CO.

147 Nassau Street, New York City; Springfield, Ohio; 204 Dearborn Street, Chicago, Illinois

Subscriptions and all business letters may be addressed to "FARM AND FIRESIDE," at either one of the above-mentioned offices; letters for the Editor should be marked EDITOR.

TERMS OF SUBSCRIPTION

One Year - (24 Numbers) - 50 Cents; Six Months - (12 Numbers) - 30 Cents

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In a recent address at New York on "Our Trade and Commerce" Senator William P. Frye, of Maine, said, in part: "While all the nations of Europe are our commercial foes; while just now they fear us more than ever before, and, as China witnesses, are lining up to stop our advance, we have abundant cause for courage and hope."

"But more promising than the acquirement of many such islands is the acquisition by us under the terms of the same treaty of the Philippine archipelago, undoubtedly the most fertile and productive unexplored land under the sun."

Give the islands a good government, protection to life and property, an advancing civilization, increasing intelligence, fair wages, honest collection of revenues, railroads and highways, improved agricultural implements, cable communication with our country and telegraphic lines between them, and who doubts that commerce will in a few years be quadrupled?

"But the value to us of the domestic trade of these possessions is insignificant compared to that regarded from a commercial-strategic point of view. They front the entire China sea, are only two days' sail from Hongkong; they introduce us to the Orient with its 700,000,000 or 800,000,000 of people, with imports now exceeding \$1,500,000,000 annually, which advancing civilization will double in a few years."

"Are we to fold our hands, and allow this harvest to be gathered by our rivals? We have treaties with China guaranteeing to us commercial rights and privileges equal to those of the most favored nations. Are we to sit silently by and see our treaty rights invaded, the doors closed against us?"

"What shall we do with the Philippine islands? Restore them to Spain? Not one even of Mr. Carnegie's reform leaders, by whom, according to the press, the name of President McKinley was hissed and that of Aguinaldo cheered at a recent meeting in Boston, proposes this."

"How could any one expect them to be fit? What model has been given them to copy, what experience to follow? They have enjoyed the opportunity only to study the most despotic government the world ever saw. Turn the sovereignty over to them, anarchy follows, tribal wars ensue, and their condition will be worse than even under Spanish dominion."

"We might sell the islands, and reimburse ourselves for the cost of the war. We might sail away and leave them to chaos, shifting from our broad shoulders all responsibility to God and man; but would God and man hold us blameless?"

"What shall we do with the Philippines? In my judgment there will be no uncertain sound in the answer of our people. They have been acquired honestly, and in their acquirement we have dealt generously with Spain. We will hold them as our own, for the good of the peoples who inhabit them,

and for the immense advantage, commercially, they promise us. We will give them a good government, relief from burdensome taxation, ample security in all their civil and religious rights. We will build highways, construct railroads, erect school-houses and churches. We will allow them to participate in government so far and so fast as we may find them capable. We will give employment to labor and good wages to the laborer. We will arouse in them an ambition to become good citizens, competent to manage their own local affairs and interests. We will make it possible for them, some time in the future, to form a stable republican government, capable of making treaties, enforcing their obligations. Then we, alone being the judges of their competency, will surrender to them the sovereignty, reserving to ourselves the naval and coaling stations necessary for our commerce and its protection. In the meantime we will not restore a rod to Spain or sell a rod to any nation of the earth; nor will we permit our supreme authority to be diminished or questioned by any power within or without the islands.

"Such utterances as these may subject me to the charge of being an expansionist. I plead guilty to the indictment, and find myself in most exalted company."

"In 1803, when our area was only a little over 800,000 square miles, the Louisiana territory was annexed. What an outcry the anti-expansionists raised! Senator White, of Delaware, declared 'it would prove the greatest curse that could befall us; Representative Griswold, of Connecticut, 'It will prove the subversion of our Union.' A voice of Massachusetts was heard, as now. Josiah Quincy, when it was proposed to admit Louisiana as a state, speaking of the purchase of the territory, said: 'If this bill passes the bonds of the Union are virtually dissolved. The Constitution never was and never can be strained to lap over all the wilderness of the West. It was never intended to form a covering for Missouri and the Red river country. Attempt to stretch it over these and it will be rent asunder. You have no authority to throw the rights and liberties and prosperity of this people into hotchpot with the wild men of Missouri, nor with the mixed race of Anglo-Gallo-Americans who bask on the sands in the mouth of the Mississippi. This bill if it passes is a death-blow to the Constitution.'

"But in spite of the prophecies of evil we kept right on extending; in 1819 added Florida; Texas in 1845; New Mexico and California in 1848; Alaska in 1867, until we have increased our original 800,000 square miles to over 2,800,000, and our Constitution survives, our Declaration of Independence lives, and our Union is more powerfully cemented than ever. I am encouraged and strengthened in my faith that the republic will survive the acquisition of Cuba, Porto Rico and the Philippines, and that the advantages to be derived by us commercially will compensate us a hundredfold for all the cost, while the war waged for humanity's sake will, if we are faithful, lay up for the republic treasures in heaven."

AN IDEA of the change that has been wrought in the 'Wild West' in a generation may be gained from a few simple data regarding two states, Kansas and Nebraska, which have been carved out of the territory believed by our fathers to be a sandy, trackless waste," says the "Globe-Democrat."

"These two states were settled at the time of the rush to California; Kansas was admitted as a state in 1861; Nebraska came in six years later. In 1850 the land now comprised within the limits of Kansas and Nebraska was supposed to be absolutely valueless; the white population consisted of a half-dozen small and widely separated settlements, the people of which were constantly on the guard against hostile Indians. Forty years passed away, and the change in the meantime was more wonderful than that produced by Aladdin's magic lamp. The Aladdin story represents a palace as built in a night, but in the wild West states grew in a generation."

"In 1850 the population of Kansas was practically nil; in 1890 it was 1,427,096, while that of Nebraska from nothing had become 1,058,910. The worthless Kansas land had acquired in forty years a valuation of \$24,000,000, while the products in the census year amounted in value to \$52,240,361. In Nebraska, also, the desert had blossomed as a rose, for the valuation of real property had in four decades advanced from zero to \$96,-

000,000, with an annual output of \$37,708,914. In Kansas the personal property was valued at \$100,000,000; in Nebraska at \$64,000,000; the factories and workshops of the former state had an annual product of \$30,790,212, of the latter \$12,627,336. All this wealth is the labor of a single generation. Where yesterday roamed the buffalo, to-day stands the city; where yesterday the hunter found precarious subsistence, to-day the farmer produces not only an abundance for himself, but an immense surplus for others.

"In quite another direction the formerly worthless wild West has produced enormous wealth. The Forty-niners who in caravans wearily traversed by slow and painful stages the passes of the forbidding mountain ranges which form the western boundary of the great American plateau little suspected that they were treading beneath their feet ledges which in time would rival the placers of California in the value of their precious metals. Eight years after the great discovery at Sutters' Mill the discoveries at Pike's Peak added fuel to the flame, and the resulting excitement among would-be fortune-hunters in the United States again went to fever-heat. Since the production of precious metals began in Colorado that state has contributed to the world's supply of gold and silver over \$300,000,000. Other portions of the wild West have been productive even to a greater degree. The gold and silver output of California has exceeded \$1,300,000,000; the sage-bush plains of Nevada, formerly the bed of an inland ocean, have yielded \$560,000,000; the crags of Montana have given up \$400,000,000; Idaho has contributed \$160,000,000; Arizona has furnished over \$80,000,000; South Dakota, \$50,000,000, and other states and territories have vied with several of these in the amounts they have contributed to the world's stock of precious metals."

THE Knights of the Golden Whistle—Aguinaldo's American supporters—like the Knights of the Golden Circle in the civil war, keep up a fire in the rear, give aid and comfort to the enemy, and attempt to stir up sedition and mutiny among the soldiers at the front.

The soldiers at the front seem to understand the Philippine question a great deal better than the verbose "aunties" at home.

In a letter to the Topeka "Capital" Brigadier-General Funston says:

"I am afraid that some people at home will lie awake nights worrying about the ethics of this war, thinking that our enemy is fighting for the right of self-government, etc. The word 'independence' which these people roll over their tongues so glibly is to them a word, and not much more."

"It means simply with them license to raise hell, and if they got control they would raise a fine crop of it. It is true that they have a certain number of educated leaders—educated, however, about the same way a parrot is."

"They are, as a rule, an illiterate, semi-savage people, who are waging war not against tyranny, but against Anglo-Saxon order and decency. Their whole conduct during the several months preceding the outbreak was one of insufferable arrogance and egotism. They were swollen up by the fact that our people made too much of them at first. I, for one, hope that Uncle Sam will apply the chastening-rod good, hard and plenty, and lay it on until they come into the reservation and promise to be good 'Injuns.'"

THE latest monthly statement of the Treasury Bureau of Statistics shows that the exports of manufactures in March far surpassed all previous records, being over \$36,000,000, or more than twenty-five per cent in excess of any preceding month. During five months of 1898 the exports of manufactures averaged \$1,000,000 for each business day; in March, 1899, they averaged \$1,400,000 for each business day. And for the first time the exports of manufactures formed more than one third of the total exports.

The following table shows the exports and imports of manufactures in the nine months ending with March in each year from 1893 to 1899:

Table with 3 columns: Nine months ending March 31, Manufactures Exports, and Manufactures Imports. Rows for years 1893 through 1899.



Some Lessons in Politics

Recently I had the proof that honesty is the best policy even in politics. Our town board (of which I am a member) had appointed for supervisor, to fill a vacancy, one of those straight-forward, honest, old-fashioned farmers who would not move an inch from what they believe to be right for love nor money. Being of the minority party in the board of supervisors, he must be expected to have a hard stand anyway in taking care of his town's interests. I was afraid at first that his lack of acquaintance with the schemes of professional politicians, and the scorn in which he held all political trickery, would not help the town much when it came to the apportionment of the assessments. I soon learned, however, that his evident honesty made him friends even among his political opponents right along. The latter went out of their way even to favor him, and the town did not have to suffer. It was to me a pleasing lesson.

There is a growing tendency on the part of the people to ignore party lines when it comes to the election of candidates for local offices. This is as it should be. It seems to me the height of absurdity to vote for a man to be supervisor or town clerk or village president simply because he happens to be a democrat or a republican, as the case may be. It is just as foolish to do that as it would be to trade with a groceryman or hardware-dealer for the same reason. We always go to the store where we think we get the best goods or the most for the least money, and we do not particularly care to know to what political party the owner belongs. Why should we apply a different principal in the selection of a town or village clerk? What the townspeople are after is good service. The man who can be expected to give it is the man who deserves the office, no matter whether he be a democrat, a republican or a prohibitionist.

I go further than that. Even the party caucuses, I believe, are justified in ignoring party lines. If the other party has a man conspicuously fit for a local office, and better than any man in my own party, I would not hesitate to advocate his nomination or indorsement in the caucus of my own party, notwithstanding the opposition of some old party fossils. The name of a really good man is no disgrace to any ticket. That of a scoundrel is, even if he belongs to the party. In other words, party affiliation is no offset for lack of character or personal worth. And when it comes to the election, I will vote as I please anyway. I do not feel bound by the action of any caucus, and surely I set my own judgment and conviction above the dictates of the party. Any other course seems to me childish in the extreme. In fact, party is nothing to me. I see in the party only a means to a certain end. This end is good government in the nation, in the state, in the county, town or village, as the case may be. If I can hope to secure it through my party I go with my party. When I have no such hope I am not with the party, or rather the party is not with me. In short, I believe in being a man and an American first and a party follower afterward. If this means "betraying the party," let the party make the most of it. I owe no loyalty to any party that is not loyal to the great principles which I want my party to represent—and one of these great principles is the nomination of fit men, in fact, the best men for public office. Call these sentiments "mugwumpish" if you wish, to me they seem founded on good common sense.

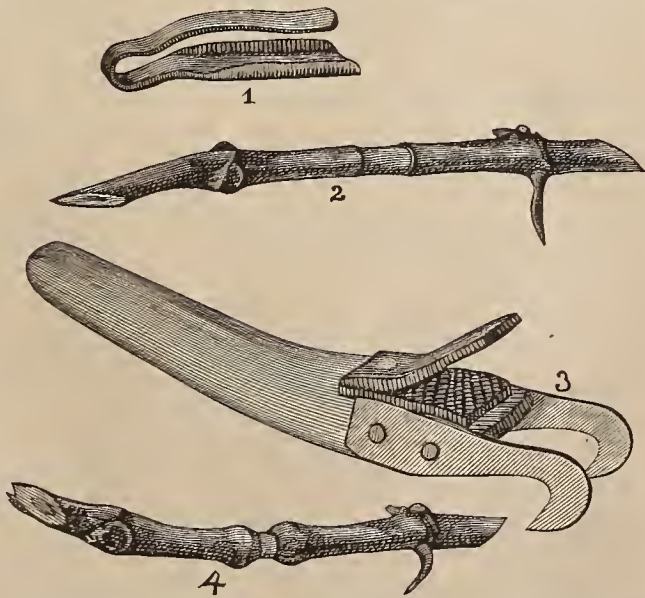
Keeping Fowls in Health Whoever has some experience in keeping poultry knows that trying to cure a sick fowl is an unthankful task. Our short-cut cure usually is with an ax. The safest thing to do always is to try to close every avenue through which disease might enter into the yard. The bulletin of the

North Carolina experiment station (already mentioned in last issue) attributes the freedom of the fowls on the station grounds from disease to the following precautions:

1. All grown fowls are watered in strictly clean vessels twice a day in winter and three times a day in summer months, being very careful that in summer all such vessels are placed in the shade. Young fowls are watered five times daily.
2. War is waged on vermin continually.
3. Good, wholesome, sound food is always given, and at regular hours.
4. Coarse lime, gravel or grit and charcoal are continually before all fowls. Oyster-shells are also occasionally supplied, but the latter are not considered an absolute necessity.
5. All houses are cleaned and floors limed once a week in winter and two or three times in summer.
6. No food is left lying around to sour, and care is taken to feed only as much as will be eaten promptly.
7. All fowl-houses have perfectly tight roofs, and the north, east and west sides are closed so as to avoid drafts. Fronts are covered with wire netting.

All these are good and sensible precautions. Too much attention cannot be given to cleanliness and absolute freshness of the drinking-water and vessels. I am ditching and tiling my yard around barn and hen-house for the very purpose of disposing permanently of the surface-water which gathers up in puddles here and there in low spots during the rainy season, and often remains to become putrid before it finally evaporates. I also disposed of my flock of Pekin ducks, which used to be clabbering in these puddles and made a bad matter worse. Hens, like cows, seem to be bound to drink (by preference) out of stagnant pools, even where they have free access to clean water. The only safe way is to leave no chance for poultry to drink out of such pools, whether they contain simply rain-water or manure-water in the barn-yard. I believe that fresh manure-water—the liquid that has just soaked through a heap of fresh manure—is less dangerous to the health of fowls than the green, slimy water as we find it in many stagnant pools. If there is no way of getting rid of a stagnant pool where hens can get at it, I would pour a quantity of kerosene-oil upon the water, both to kill infection and to make the water unpalatable for the hens.

Ringed Grape-vines At one time the practice of "ringing" grape-vines, for the purpose of making the fruit earlier and the bunches larger, threatened to become quite popular. I myself once entertained high hopes of great results from the practice, but some trials convinced



me that the gain was not fully what was promised or expected. The disadvantages nearly offset the benefits derived from the operation. The New York state experiment station, at Geneva, in a bulletin on the subject just received by me, gives the following summing up of the results: "The experiments tend to show that ringing will mature grapes of some varieties earlier, and will make larger and more compact bunches, but the amount of difference will vary with the variety, season, condition of foliage, cultural care and quantity of fruit allowed to mature on the vine. The quality of finely

flavored grapes is liable to be lowered; but this may be remedied to some extent by trimming ringed vines so but little new growth forms. With careful management the vitality of the vines need not be seriously impaired. The question of desirability of ringing and profit therefrom is one which each grower must decide for himself." I believe that the majority of the people who have only a few vines leave on far too much wood, and that they can, in nine cases out of ten, secure earlier and better fruit by proper pruning. A few trials in ringing, however, will at least prove interesting. The operation consists of the removal of a band or ring of bark about an inch wide on the branch to be treated. It can be done with an ordinary pocket-knife or with tools specially devised for the purpose. The bulletin in question shows two such tools.

T. GREINER.

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SALIENT FARM NOTES

The Farm Day B. M., Michigan, writes: "I was born and raised in the city, and after leaving school worked in a factory four years. I worked ten hours a day, beginning promptly on the minute, and stopping when the whistled sounded. I did not like the work, so went on my uncle's farm a year and learned the business, then hired to a farmer for \$20 a month. I am called up at four o'clock, get one and a quarter hours at noon, then work as long as I can see, and have supper at eight to eight-thirty at night. I think I am being imposed on and work too many hours. What do you think? How many hours is a legal day on the farm, anyway?"

When I was a hired man I sometimes worked fifteen to seventeen hours in a day during haying and harvest; and I worked for one farmer who "put me through" thirteen hours a day regularly. I worked for other farmers who made it a rule to begin work in the field at six and continue steadily until eleven, then begin again at one and keep moving till six. This was ten hours a day, and they declared that it was all either team or man could stand. I noticed that these ten-hour men were all successful farmers, but it was plain that most of their success came through being systematic, not alone in work-hours, but in the management of their farms.

I know a few men who belong to the "late-and-early" class who have made money, but it has been at the expense of comfort and health. I know other "late-and-early" men who have worked like slaves all their lives and to-day are as poor as Job's turkey. Their failure to accumulate wealth was not through laboring long hours from year's end to year's end, but through lack of systematic through poor management. I am well satisfied that no man who works like a slave can think clearly and plan intelligently. Continual hard muscular labor makes a man's brain sluggish and renders him incapable of clear thinking and skillful managing.

Neither man nor animal can stand it to work steadily for fourteen to sixteen hours a day. The animal loses all life and spirit, and the man becomes dull, stupid and careless, and their work is done in a bungling, slovenly manner, while they learn to shirk at every favorable opportunity. There are times, short spells, when it is necessary to push things and to work long hours, as, for instance, in haying, harvest and seeding, when stormy weather has delayed work, or when frost threatens, and at such times all hands should be, and usually are, willing to whoop things up early and late for a few days. It is not these short spells of hard work and long hours that wear out men and boys and disgust them with farm life, but that everlasting grind of long, long days and unending work.

Many farmers appear to think that it is necessary that they should work from day-break till dark in order to make a living. There is no such necessity unless a man is trying to farm more land than he can. Scratching over a large area is not farming, and many are beginning to find that out. Many are learning that it is far better to thoroughly till, thoroughly care for, a small tract than to make slaves of themselves and ruin their health by never-ending driving and drudging on a large one. A good question for a man to ask himself is, "Am I working to live or living to work?" If one is working to live he should not work his muscles so continuously as to render his brain dull, sluggish, lifeless. A clear, active brain is needed on the farm as well as in any other vocation. It is the farmer's best

friend and will enable him to make a success where "horny hands" alone would fail miserably.

B. M. asks about a "legal day" on the farm. I do not know that there is such a thing. Farm-work is governed largely by the weather, and if we can work but four hours to-day we should be willing to work twelve to-morrow if the soil is in just the right condition for tilling. A farmer can hardly be expected to change his customs and methods to please a hired man, but the man can, when he hires to him, have a full understanding about the number of hours he shall work. Some farmers hire men as carpenters do. If a storm stops work outside and there is no work to be done indoors the man loses his time. If he works more than ten hours a day the extra time is counted and he is paid for it. I think this is a good arrangement for both parties. At the end of a term of six months the man will find, if he is working for an intelligent farmer, that he has about six full months to his credit. In bad weather the man will care for his team and attend to such other small chores as he does other days, while the farmer, knowing that the man's wages have stopped, will not care how he spends the rest of the day.

Fruit Not

Winter-killed After the terrible cold weather we had in February, the wisecracks and calamity prophets declared that all the fruit in this locality was destroyed, together with most of the trees. I was satisfied that they knew no more about it than I did, and I could not say yea or nay. In looking over the trees on my place yesterday (April 21st) I note: Apples—Ben Davis, Mammoth Black Twig, Gano, Maiden's Blush, Early Harvest and all other varieties sound in limb and twig and full of buds. Pears—Kieffer, Howell and all other varieties on the place all right and fairly covered with buds. Plums—Burbank, Satsuma, Abundance, Blue Damson, Pottawattamie and others all right and mostly in full bloom. Cherries—Early Richmond, Montmorency, Wragg, etc., sound and covered with buds. Currants, gooseberries and raspberries all right and promising a fine crop. The calamity prophets missed their guess on everything except peaches, and while the trees are injured but little the fruit-buds are slaughtered. I would rather lose the peach crop a dozen years than the apple crop one. Last year we had no apples (I would have had some if I had sprayed the trees thoroughly just as the blossoms fell) and it makes me feel good to see the promise of a great crop this season. We miss apples, apple sauce and apple pies more than any other "fruit." Last fall the Kieffer pears helped temper the loss to some extent, but when winter came on we were apple-hungry and had to remain so.

The Garden

Just at this time the garden is apt to be neglected because of press of other work. If one has a good hand-cultivator he can go out after breakfast and do about all the heavy work in an hour. He can destroy every weed between the rows and close to the plants and leave little else to be done. One can, if the vegetables are planted in long rows, hoe a large garden in an hour with one of these handy little machines, and if it is done about once a week the slower hand-work can be done at odd moments and one can have a clean garden all the season. As I look out of the window and see the fine promise of first-class radishes, lettuce, beets, peas, cabbage, etc., and an abundance of them, I wonder how a farmer can have the soul to go without such things when he can so easily have them, and lots of them, with very little effort. Don't let us neglect these little dime things while we are grabbing after the dollar things; there is comfort, health, life, in them.

FRED GRUNDY.

2

PURE FOOD.—Secretary Wilson says: "The entire question of pure-food legislation hinges on the point: does the seller offer to the buyer a compound which is not what he represents it to be? It would seem a very fair proposition that what is sold upon the market should be what the vender represents it to be. If you find a man opposed to pure-food legislation you will find a man who is interested in either one of two things; he is trying to make people pay more for his product than they would if they knew what it contained and how it was made, or he is putting something into it which is hurtful and which he wants to conceal from their knowledge. What is sold upon the market should be what it is represented to be to the buyer. Anything short of this is dishonesty." G. E. M.



FARM THEORY AND PRACTICE

SWEET POTATOES IN THE NORTH.—There is only a comparatively small amount of sweet potatoes grown north of the Ohio river, but more could be profitably grown if the nature of the crop and its proper culture were better understood. A sandy soil is not necessary to this crop, and no poorer site can be chosen than the rich sandy strips of land on the banks of streams so often selected by farmers for growing the home supply. This rich, loose soil makes a big growth of vines, but it rarely gives a good yield of well-shaped roots. A gravelly or stony hillside facing the east or south, and having a solid subsoil, is preferable. It is in such soil as this that tens of thousands of bushels of sweet potatoes are grown near Marietta, Ohio. These growers do not plant in the alluvial sandy soil on the banks of the Muskingum river, but go back to the rolling and gravelly second bottoms. The ground is plowed shallow, the idea being that a hard subsoil is needed to check the tendency of the roots to grow long and stringy. The few inches of loose soil at the surface is thrown into ridges running slightly down hill, so that the water from rains may easily escape. The sweet potato wants a large amount of heat, and does not want a large amount of moisture. The gravelly soil, thrown into ridges, warms up early. The roots of the plant soon strike the hard soil in the bottom of the ridge, and then thicken rapidly in the heat. Such land does not grow as large vines as the rich bottom-land, but it develops the roots, and these are the crop wanted.

A rotation with clover is not desirable. The clover loosens the soil too deep. Unless disease germs get into the soil it is best to use the same land each year for sweets, keeping up fertility with light applications of rotted manure. Heavy manuring is not best. Shallow plowing, thorough fining of the soil before ridging and reasonably late setting of the plants are essential. The ridges should be made some days before the setting, in order that moisture may rise, and the plants should not go out of the hotbeds until the cold May rains are past. Otherwise disease will probably cripple them. The plants should be hardened in the bed, being exposed to the heat of noonday and the cold of night and left without water a few days before time of setting, a thorough watering being given before the plants are drawn. Probably the twentieth of May is about the right date in the North for setting plants in the field, early varieties for home use being set earlier. It is a common mistake to set only early varieties north of the Ohio river, both for home use and for market. We have no variety equal to the Jersey, yellow or red, for use after frost comes. The coarse and tasteless summer varieties will not sell when the Jerseys come into market. A fair quality of Jerseys can be grown in the North, and are in demand in late fall—any time after frost until spring. The digging may be done with a big plow, and if the potatoes are wanted for the fall market they should be left on the ground for two or three hours to dry, then gathered without bruising and stored on the earth floor of a warm shed. If put not more than a foot deep, and covered on cold nights, they will keep until quite cold weather. Winter storage requires a different method of handling.

CANTALOUPS FOR HOME USE.—No one has a better right to the delicacies that may be produced upon the farm than the farmer and his family. Among these delicacies nothing gives larger returns upon the investment of labor than cantaloups. They should be in such abundance for months that they may be served on the table three times a day, and only a small plot of ground is required for this purpose by the average family. A rich sandy loam is best, but nearly any kind of soil may be made to produce melons for the family. Plow the ground deep, work it fine, and if it is not already rich, manure in the hills after checking the ground with furrows six or seven feet apart. Use thoroughly rotted manure, and work it well into the soil. Plant at various times from the first of May till the middle of June, using plenty of seed. It is a good plan to bunch the seed somewhat on one side of a hill, and then plant more seed in the same hill ten days later. The second planting will attract the striped beetle, if it come unno-

ticed and make an onslaught before protection is given the plant. When the older plants are safely in the rough leaf the younger plants may be cut out. Some gardeners use netting as a protection from insects, and this is the safe method, but in a home patch the farmer can protect his plants with a mixture of ashes and fertilizer and by hand-picking. Ashes should be sifted upon and around the plants twice a week when dew is on them. A little work early in the morning, watching for and destroying any striped beetles or squash-bugs, insures freedom from these pests wherever ashes are used freely, as the grit of the ashes will repel all except the most persistent. As to varieties tastes differ, and I know little about the novelties for city markets. For home use I like the Early Hackensack and the Notted Gem. These are good enough. Grow an abundant supply and eat them fresh with good bread and butter.

POP-CORN.—A few years ago the price of pop-corn went so high that there was much inquiry about varieties and method of handling the crop. Latterly prices have ruled too low to arouse much interest. There is an annual demand for tens of thousands of bushels by seedsmen and manufacturers of pop-corn balls, but this is kept pretty well supplied. Manufacturers want a white variety, and the rice always sells well, but it is my experience that it is not as good a producer as some other varieties. The market demands corn one year old, and the producer must prepare to house it over one season. There must be no smell of mice upon it. Whenever the price runs above two cents a pound the crop can be made quite profitable. It is easily raised, the only difficulty being in the first cultivation, on account of the spindling nature of the plants. The husking is costly. While I cannot recommend pop-corn as a money crop, although a few producers are growing a large acreage every year, yet every farmer's boy should plant a patch for home use, and May is the month to plant.

DAVID.

SORGHUM AS A FORAGE-PLANT

No better illustration of the need of the adaptation of crops to special localities is afforded than the one given by the plucky, energetic farmers in southern and southwestern Kansas. No sooner was the discovery made that both corn and wheat were uncertain crops on account of early and midsummer periods of protracted drought than the effort was made to grow more of the drought-resisting grain and forage-plants. The efforts made were successful, and to-day sorghum and Kafir corn are acknowledged to be the most profitable forage and grain crops in the locality indicated. The great benefit as well as the large profits realized from the cheap and certain forage crops now secured by planting the best syrup and sugar producing varieties of sorghum is rapidly solving the question of how to make farming a sure success. The importance of growing a crop that can be produced in abundance in either wet or dry years can hardly be overrated. Kansas farmers are learning each year something new in the way of growing and using sorghum. The present method of seeding is to harrow the surface finely, use a press-drill, and put in two and one half bushels of seed to the acre, as too little seed makes the stalks too coarse. The height when harvested should not be over four and one half feet, and the size of the stalks at the ground should not be larger than a lead-pencil, or five sixteenths of an inch. In Kansas the harvesting is done with a self-binder. The bundles are allowed to lie in the sun two days, and then they are put in a shock and not capped, but allowed to stand sixty days before being stacked for winter use. Sorghum hay is most extensively used during the late fall and early winter months. In Kansas it can be kept in good condition a year or more. All kinds of stock will eat sorghum fodder more readily than they will corn fodder, and there is much less waste in feeding.

Sorghum is used to great advantage as summer pasturage for all kinds of stock, and is particularly well adapted for grazing by both hogs and sheep. The best varieties for this purpose are the Early Amber, Folger's Early, the Colman, Kansas Orange or Denton or other sweet sorghums. Folger's Early is a very rapid-growing variety. Hogs should be kept out of the field until the plant attains a height of several inches. During this time the hogs can be turned into the rye-field, which affords good pasture until May.

In many cases where the seed is drilled in early in April the first crop is often cut for

hay or is daily fed to stock. The second growth is soon ready to be pastured off until August, when the land can be seeded to wheat or winter rye. Large fields can be subdivided so as to afford a succession for either pasturage or soiling purposes. No more danger will result from feeding sorghum than clover if the stock is not allowed to have too much of it at first. After the animals have been fed in morning they may be turned on the sorghum for a short time each day until they will no longer gorge themselves with it. Little or no risk will be taken if at first the cattle and other stock are only turned in during the middle of the day, when the leaves of the sorghum have no moisture upon them.

In regard to the feeding value of sorghum as compared with corn, scientific investigations show that both seed and stalk are equal to corn, and in some respects superior. Fresh sorghum, cut from blooming-time to the "dough" stage, will contain to each ton of forage about 87 pounds of digestible cellulose, 226 pounds of digestible extract matter, 24 pounds of digestible fat, 14 pounds of digestible protein and 1,453 pounds of water. This compares very favorably with similar estimates for fodder-corn, and shows that while sorghum may be somewhat below corn in muscle-making elements, it is richer in the fat-forming ones, and hence is an excellent food for preparing animals for the market. This, taken together with the heavy yields of forage obtained from the sorghum and its well-known drought-resisting qualities, makes it one of the most certain and most profitable crops yet introduced for feeding purposes.

W. M. K.

RAPE CULTURE

The Dwarf Essex rape-plant is probably the most valuable addition that has been made to our list of forage-plants within the last hundred years. When I first wrote concerning it, in the American agricultural press in 1891, I said the day would come in the United States when 10,000,000 sheep and lambs would be fattened on rape annually in this country. The fulfillment of this prediction is assuredly near at hand.

This plant will grow in any kind of good land, but it grows best of all on muck and swamp soils. Poor sands and stiff clays are least adapted to its culture. Good corn-land will answer very well, and the same is true of the average prairie soils. It may be sown any time after the opening of spring and before the advent of autumn, providing there is moisture enough in the land to sprout the seed, but it is more common to sow after May 1st than earlier. This plant can be grown to perfection in any state in the Union during some portion of the year, as it usually reaches its growth in from eight to ten weeks from the time of planting. But it is better adapted to cool and moist climates than to those that are hot and dry.

It may be sown as a catch-crop or as the sole crop grown. Two crops may be sown in one year on the same piece of land. It may be made to follow winter rye, pastured, or cut when mature; and it may in many instances be made to follow wheat and barley, the first cutting of clover, strawberries and garden truck, and unless on stiff soils, it may be sown along with grain to provide autumn pasture after the grain is cut. It may be sown alone or in combination with such plants as rye, corn and sorghum, but it is usually preferable to sow it alone, except when it is seeded to clover. On prairie soils clover sown along with rape will make a good stand. The pasturing will help rather than hurt the clover.

This plant is sown broadcast and without cultivation, or it is sown in drills, from twenty to thirty-six inches apart, and cultivated like corn. On stiff soils it should be sown in rows. On the rich soils of the prairie it will grow very well when broadcast. The rows may be on the level or raised. The plants are not usually thinned. The cultivation in rows is the same as for rutabagas or mangels, except that the plants are not thinned. When sown alone and as the sole crop the land should be cleaned by harrowing occasionally on the upturned surface from the opening of spring until the seed is sown. When this process is followed up by cultivation in rows rape becomes a most excellent cleaning crop. Two pounds of seed to the acre is ample when sown in rows. Usually half that much will suffice. Three to five pounds will answer when sown broadcast. Any method may be adopted in sowing broadcast that will answer when sowing clover-seed. It is usual to follow with one stroke of the harrow. When sown with grain on prairie soils rape-seed is

mixed with the grain at the time of sowing the grain. The plants remain diminutive until the grain is cut. In good seasons, and especially on prairie soils, they soon make much growth. From one to two pounds of seed are sown with the grain. Thousands of acres are thus sown on the prairie every year.

In the East, and indeed on all soils low in fertility, rape ground should be enriched before sowing the seed. It cannot be injured by piling on farm-yard manure. It responds nicely to applications of phosphates and superphosphates put in at the same time as the seed. But usually there is fertility enough in the black soils of the prairie to grow good crops.

Rape must be pastured with caution when animals are first put upon it. There is danger from bloating, and when it is wet there is more danger. It is excellent for horses, cattle, sheep and swine either as pasture or as soiling food, but will taint the milk of dairy-cows unless fed with caution. It is more commonly grown to provide pasture for sheep and swine. THOMAS SHAW.

University of Minnesota.

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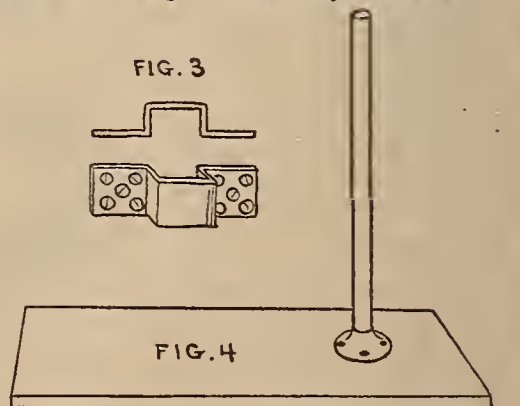
BAG-HOLDERS

The old proverb, "Make your head save your heels," might well be extended to include fingers where grain-bags are still held by hand, as they very generally are. There is, perhaps, no farm convenience so easy to make that will save so much lifting and so many tired hands and fingers as bag-holders. Here are several based upon the one principle.

The stationary one illustrated in Figs. 1 and 2 is made as follows: Take a piece of flat iron rod about six feet long, one inch wide and one fourth of an inch thick, with some spring to it. Bend it till it takes the form shown in Fig. 1, with the short end A below the long one and sprung downward from it, so as to leave a hand's breadth between the two parts that would otherwise touch. Cut several notches half an inch deep and slightly more than a quarter of an inch wide on the lower side of the short end so that they will fit down over the long end. Then at a point B, six or eight inches from where the two ends cross, give the long end a twist and a bend downward, as shown in Fig. 2. In the long end bore some holes for screws, and fasten the now complete bag-holder to a post, the side of the granary or to any other convenient object where the grain is to be handled.

When a bag is to be filled, slip the mouth around the iron circle previously held by the last notch from the end A. Engage the cloth with the four short, blunt spikes C, C, C, C, that should be added to prevent slipping. Loosen the end A, and let another notch engage with the end B. It takes but a moment to put on or take off the bag, which is held firmly.

The same holder may be made portable in two ways; first, by the use of brackets such as shown in Fig. 3. These may be screwed to



any convenient object in any place desired, the end B being slipped in and taken out at will. The second may be made of a piece of gas or other iron pipe securely screwed to a plank, as shown in Fig. 4, the end-piece B being slipped in the top. The advantage of this latter arrangement is that the bag-holder may be taken anywhere upon the farm, even to the field when necessary.

One thing that must be borne in mind in making these bag-holders is that they must not be so high above the ground that the bag will be suspended. The bottom of the sack must rest upon the ground, else the weight and the jar will tear the screws loose in a short time. The holder is for keeping the mouth of the sack open, not for lifting it also.

M. G. KAINS.

NOTES FROM GARDEN AND FIELD

POLES AND BUSH LIMAS.—Says the "Farm Journal": "Raise bush limas—poles are a nuisance." Perhaps poles are a nuisance. I believe they are, although I do not have any, and consequently cannot use them. I have raised the bush lima for a time, and if I cared to raise the small limas with their small pods and small beans at all I probably would raise the bush form of it (Henderson's bush lima, or rather bush sieva). This is very productive, and the crop is easily grown. By planting in succession one can have a continuous supply to the end of the season. But for me the larger bush limas, like Burpee's and Dreer's, are not as productive and long in bearing as I would wish. For that reason I plant now only the running sorts of large limas, especially the Extra Early Jersey, King of the Garden and Dreer's. In place of poles I use my post, wire and twine combination trellis, and it is as satisfactory in results as ever.

VALUE OF THE TOAD.—What queer calculations people will sometimes indulge in! Here is one taken from one of my exchanges: "One toad saves \$20 a year to the farmer, and this helps one to determine his worth, for if he attends strictly to business during his fifteen years of life the toad's value must of necessity be \$300." Possibly a toad may be able to save us \$20 in the course of a year. I don't know. Sometimes I use one as night-watchman in my hotbeds or cold frames, and it may save me a dollar or two in plants. But I am quite sure that I would be glad of the chance to sell every toad off the place at a dollar apiece, and think I could then make more clear money in farming than I usually do. We have hundreds and possibly thousands of the little animals.

THICKNESS OF PLANTING.—There is a great diversity of opinion concerning the amount of our common garden seeds to sow to a given length of row. In one sense this is no more than can be expected, since in many instances we can give no rules that will apply to all conditions. The fertility of the soil, size of individual lots of seed, as also the particular purpose for which certain vegetables are grown, determine largely the question of how thickly the seed should be planted. The best rule, in all cases, is to use ordinary common sense. Even if we sow with a garden-drill we cannot wholly go by the directions printed on the regulating slide. We may, for instance, set the regulator as marked for "onions," and yet the seed, being rather smaller than usual, will run out far too fast; or the onions being intended to be pulled up green or for pickling-onions or sets, the seed will not run out a quarter fast enough. In sowing celery, beet, carrot, cabbage, radish, lettuce, turnip, and similar seeds in drills in open ground most people use far too much seed. The consequences are that the plants stand far too thickly, and unless promptly thinned, with a good deal of labor, will not do as well as where proper room is allowed them.

I am frequently asked how thickly peas and beans should be sown in drills. The directions given in our garden books, and in seed catalogues, too, vary quite a little, and are based largely on guesswork. Seedsmen usually fix the amount of peas at one quart of seed to 75 to 300 feet of row. I have usually tried to plant not less than 150 feet of row with that quantity of seed. The first early (smooth) varieties have smaller seeds, but can be planted more thickly in the row than the larger wrinkled sorts, so that I think a quart of seed might go as far in one case as in the other. Interesting in this respect are the experiments made recently by the New Jersey experiment station for the purpose of settling the question of most profitable quantity of seed to a given row. The following is a quotation from its latest report: "The dwarf sorts planted at the rate of one quart to 175 feet of row have given the largest yields. (This was the thickest of the plantings.) The same is true with the taller varieties—the thickest planted, one quart to 235 feet, has given the largest yields. In every case there is a greater yield to the plant and a larger plant-growth in the thinnest plantings, also an earlier maturity, but for the space occupied the thickest plantings have given the largest yield. I have not been able to detect any difference in size of pods between the different lots. I think I shall stick to my old thickness of planting, about 150 feet to the quart of seed for dwarf

sorts, unless I plant wrinkled peas on rich ground, when I should prefer to sow a trifle more thinly. I seldom grow any of the taller varieties. If I did I would try to make a quart go over 200 to 300 feet of row, according to the richness of the soil. With a little practice in sowing such seeds by hand one can easily learn how to regulate the desired quantity of seed.

In regards to bush beans the station people come to the following conclusions: "Seedsman usually recommend the use of one quart of seed to 100 feet of drill. With the average varieties that would mean about eighteen plants to each foot. In my test two varieties were grown—a green and a yellow podded sort. Five thicknesses of plantings were used. Plants at the rate of six to each foot have given the largest percentage of their total yield in their first pickings. In yield and weight to the plant there is a regular decrease, two plants to the foot giving the largest yields and greater weight, while ten to the foot give the lowest yields and weights. Considering the yields for the space occupied, with one exception (yield at six to the foot) there is a regular increase from the thinnest to the thickest planting. One quart of seed, then, in 162 feet of drill has given the largest yield. There was a tendency in the thicker plantings toward smaller pods. The vines were more spindling and general development was reduced in the thickest plantings." In a general way, therefore, I might say that with both peas and beans a quart of seed will plant 150 feet of row, but that good judgment should be exercised. If we vary much from this distance it will be safer to plant less seed than more.

DRAINAGE FOR THE YARD.—I am just now putting in some extra tile-drains between dwelling and barn. The cistern at the corner of the barn has been overflowing every spring and during every heavy rain at other times of the year. No drain had been provided for this, and in consequence a large portion of the yard was more or less water-soaked except in dry weather. Every little rain left pools of standing and often stinking water in the yard for days, and sometimes for weeks. I believe that this state of affairs was wholly responsible for the loss of a large portion of my fowls, during the past two or three years, by cholera. The whole work of laying the yard completely dry only takes about two hundred tiles and the labor of one man a couple of days. Had it been done years ago ten times the cost of the ditching would probably have been saved in chickens alone, not to speak of the increased comfort and convenience in passing back and forth between house and barn. I have been using the barn cistern for watering my greenhouse crops, and I wondered why it was more liquid manure than clear rain-water. In draining off the overflow I find that there is a big pond of that water all under the barn and connected with the cistern. I expect to have less water from that cistern hereafter, and perhaps less thrift in my plants (they did wonderfully well while watered with that rich cistern-water), but I shall be the gainer in other respects. I do not want any stagnant pools near house and barn any more if I can help it, and am going to begin raising chickens again.

T. GREINER.

A FORMIDABLE GARDEN PEST

Probably of the garden pests no plant covers more area than the common pusley, or purslane. Though it is now a bad pest, yet its introduction into the United States—for it is a foreigner—was for use as a garden plant, while its near relative is used as a flowering plant.

According to Mr. L. H. Dewey, this plant was cultivated for greens in Massachusetts as early as 1672. Early in this present century it was taken westward into Michigan for use as a pot-herb, and since then has reproduced so rapidly that it is now a very bad pest. In the old world it is even now used very widely for greens, as a medicinal plant and as an excellent feed for hogs.

This plant is found in nearly every garden, where it clings closely to the ground, sending out its several branches which bear a great number of small yellow blossoms. It has a very succulent stem and leaf, and is easily pulled. If attended to promptly it is very easily controlled, but if allowed to fruit it spreads very rapidly. From this small yellow blossom is formed a very pecu-

liar seed-chest, known technically as a pyxis, a small cup with a detachable top which opens when the seeds are ripe and allows them to scatter. It has been calculated that a large plant of pusley will produce as many as three million seeds in one season, and when one stops to consider what a crop this may mean for the next year, even though only twenty-five per cent grows, the result is startling, in fact, it would seem almost useless to combat so formidable a foe.

However, the means of exterminating it are very simple. Thorough cultivation will keep the weed entirely within bounds if not destroy it entirely. Often it is found growing in a rubbish heap where cultivation is not maintained; if so, it should be pulled before forming seed, and given to the hogs or thrown on the ground roots up and in a short time it will be thoroughly overcome by the hot sun. A little care in pulling or cutting off before seeds are formed will do an immense amount of good, and as it demands some form of cultivation to get rid of it, who will say that weeds are not of some use after all?

GUY L. STEWART.

WINTER MUSKMELON

Last year the Department of Agriculture sent to Russia, Siberia and Eastern Turkey a special agent, Professor Hansen, who procured a large amount of seeds of different species and varieties, for trial in the United States. Among them were a number of untried kinds of melons, and the results of some of the tests made with these are proving very interesting. The department has received a specimen of what may be called a winter muskmelon, which is undoubtedly a remarkable production. It grows very much like any other melon, but when frost comes in the fall it is found to be yet hard and unedible, and for this reason it was pronounced worthless by a number of growers to whom seed was sent for trial; but one grower in semi-arid Utah, who has been for some years experimenting along the lines of "winter" melons, recognized it at once, and instead of allowing it to freeze and rot on the vines, carefully stored the melons in his cellar to ripen up. A specimen of this melon weighing seventeen pounds was sent to Secretary Wilson in February, having just arrived at a ripe and edible stage. It is undoubtedly a wonderful fruit. The body of the rind is a light yellow, streaked with green, and the specimen much resembled a small rattlesnake watermelon. The meat proved to be very solid and thick and edible almost to the rind, and the flavor very spicy and delicious.

Fortunately, in addition to the seeds saved by the Utah grower the department has a few seeds left over of this variety, and as melon-seeds do not deteriorate with age, they will be distributed for further trial this year among the semi-arid states and where irrigation methods are practised.

Luscious ripe cantaloups in midwinter are something of an innovation in this country, but it seems probable that they will become a feature of American fruit, as well as have winter tomatoes or Christmas strawberries from Florida.

GUY E. MITCHELL.

OUR TWO BEST WINTER APPLES

A reader of the FARM AND FIRESIDE, who reports himself as a teacher, asks which two of the winter apples are the best to be planted for market purposes. The question cannot be answered without reservation. In this section (western New York) I should select without hesitation the Baldwin and the Northern Spy. This choice would stand good along the line eastward as far as Maine. Maine is peculiarly a Baldwin state, where it grows to perfection. I believe that the Spy is in absolute perfection in western New York. In Michigan, if I were to select two apples, I might prefer the Yellow Belleflower and Roxbury Russet if my soil were sandy. Upon the clay soil I should probably revert to Baldwin and Northern Spy. In Ohio, Grimes' Golden might easily rank as one of the best. In southeastern New York I should certainly include Newtown Pippin, but this choice omits everywhere the unrivaled Spitzenburg. Wherever this apple can be successfully grown it should stand in the front rank. I am inclined to believe that we have one new apple which will rival both Baldwin and Spy, if it does not displace the Baldwin. I refer to Sutton Beauty. This is a comparatively new apple, but has been tested sufficiently to prove that it is an enormous bearer, with a tendency to resist insect and fungoid attacks. The fruit is large, with yellow and crimson distributed much like a well-ripened Baldwin. The tree is a good grower, and the quality of the fruit is generally held to be better than the Baldwin. It

certainly averages much better than the Baldwins which reach our city markets. It is quite as good a keeper as the Baldwin, and is believed to be the coming export apple. In addition to these we have Dudley's Winter, which is a seedling of the Duchess of Oldenburg, and very much resembles that apple both in quality and appearance. It is not quite so sour, and is a very good keeper. The tree is reported to be very hardy, able to resist the coldest climate. In this respect it resembles the Duchess. For Pennsylvania I would select a different list, and probably in all cases would include the New York Imperial, which is a very large, red, juicy apple, and a splendid keeper. Ben Davis will hold its own, especially in the more southern part of the apple belt. Ultimately, however, it will be discarded, because its quality is hardly good for cooking, and very poor for eating. There still remains the King of Tompkins County for certain localities, especially western New York. It is as a rule a scattered bearer and the wood is not tough and enduring. I have omitted the Rhode Island Greening, which is a first-class standard throughout the whole apple belt. In all cases it should rank close after the Baldwin and Spy; and in some cases it will be preferred to either of these as a profitable orchard variety. Meanwhile the old-fashioned Seek-No-Further has great claims upon us as a sure bearer of a clean, smooth, shapely fruit, of fine size, rarely running small or defective. The quality of this apple is generally prime for dessert; and it ranks well in market, because it is a good shipper and a good keeper. Of the sweet apples there is no better shipper and keeper, as there is no better bearer than the old Belleflower, which was popular in Connecticut one hundred years ago. A new apple of the very highest rank in quality is the McIntosh Red. This is a seedling of the Snow, or Fameuse, and is equal to that variety in quality. This is as good an answer as I can give to the inquirer. If compelled to select two apples, which on the whole are most profitable to place in the New York or Boston market, I should say Northern Spy and Baldwin, with a probability that Sutton Beauty will soon outrank the Baldwin.

E. P. POWELL.

NEW FRUITS

Many of our best varieties of fruits and plants are the outcome of careful and exceedingly laborious work and experimentation by scientific and systematic methods. Few men, probably, have done and are now doing more for the fruit world than Mr. Luther Burbank, of Santa Rosa, California. In the origination of his remarkable hybrid blackberries and raspberries he employed no less than thirty-seven species of the genus Rubus, collected from all parts of the world. His "Japanese Golden Mayberry," which is the earliest raspberry known, ripening in California before the strawberry, is the outcome of crosses in familiar American varieties, such as the Cuthbert, with Rubus palmatus, a Japanese plant, which is described as an unproductive species bearing small, worthless berries. Mr. Burbank's wonderful raspberry-blackberry hybrid "Primus," which also is remarkable for its early ripening as well as productiveness and large size of fruit, is the outcome of a cross of the western dewberry on a Siberian raspberry.

GUY E. MITCHELL.

INQUIRIES ANSWERED

BY SAMUEL B. GREEN

Chemical Fertilizer.—N. N., Hartland, Wis. There are some eight or more elements that enter into the structure of agricultural plants. The most of these are found in the greatest abundance in soils. Of all these elements we find that only three are often lacking; namely, nitrogen, potash and phosphorus. Nitrogen is the most expensive of all the elements to obtain. It enters largely into the composition of lean meat, eggs, oats, wheat, barley, cabbage, skim-milk and cheese, but there is comparatively little of it in potatoes, corn and other starchy foods. It builds up the muscle in animals, and in plants encourages a strong growth and dark-green leaves, but where there is too much of it in the soil it has a tendency to encourage late fruitfulness and late autumn growth. Soda is seldom of any value as a manure. Potash is the common potash of the stores and of wood ashes. Phosphorus is used in making matches, and in a combination with lime it forms the bones of our land animals. Potash and phosphorus enter largely into the composition of our grains and other plants. When they are largely in excess in the soil they encourage fruitfulness and early maturity of wood and fruit. In commerce phosphorus is obtained for manure from bones of animals and from apatite (which is a native rock and containing it). Potash is obtained from wood ashes and from parts of Germany, where it is mined in much the same way as rock-salt. Nitrogen is obtained from the refuse meat and blood of slaughter-works and from Chili, where they get it in the form of saltpeter. The common saltpeter of the stores is made up of potash and nitrogen, and is a very nice fertilizer, but too expensive. In your section there is probably no need of using any form of commercial fertilizer, as you have rich soils, and stable manure is, and probably will be for a long time, the best thing for you to use. Commercial fertilizers are not nearly so good for the land as stable manure, and they should be used only to supplement it.



Pyxis of Pusley
(Gray)

Showing cover just opening to allow seeds to escape.

Some Facts about A Cream Separator

Saves Endless Work

Vinton, Iowa, Jan. 10, 1899.
"About one year ago I purchased an 'Alpha-Baby' No. 2 after giving it a thorough test and finding that with the same quantity of milk we were able to produce 3 lbs. more butter per day than we were getting by the old method. This was with the milk from twelve cows. I am satisfied our separator has paid for itself the first year, besides saving an endless amount of work for Mrs. Austin and her help in the house, in that there were a great many less pans, etc., to wash and keep clean. I feel that I cannot recommend the 'Alpha-Baby' too highly to any one in the dairy business."
S. B. AUSTIN.

Big Difference In Results

St. Mary's, Ohio, June, 1898.
"We have finished our test of the 'Baby' separator. We made the test from six milkings. The milk was well mixed and carefully divided. The half skimmed by the separator made 11 lbs. and 3 oz. of butter. The other half was set in crocks in the old way and very particular care taken of it. It made 5 lbs. and 12 oz. This is almost unbelievable, but my wife is willing to state the same under oath. We sell butter at 16c. to 20c. per lb. so that the separator will make us a net profit of 30c. a day over the old way. It will more than pay for itself inside of one year, with our seven cows. Calves and pigs are doing very well on the skim-milk."
F. W. NEDDERMANN.

Any Kind Of Cream

No. Grafton, Mass., 1898.
"The Dairy Turbine 'Alpha' De Laval separator which I purchased in September, 1896, is giving perfect satisfaction. I have separated with it from 40 to 80 cans of milk per day ever since. Some days the temperature of milk is as low as 55 and 58 deg., but the samples of skim-milk show only from .01 to .02 of 1 per cent butter-fat. There is no trouble in making the cream of any desired thickness that I may wish, which is a great benefit to me, as I can supply cream at any price that my patrons desire. Had I purchased one of these machines several years ago it would have saved me a good many hundreds of dollars."
S. L. DAVENPORT.

De Laval Superiority

Webster City, Iowa, Jan. 19, 1899.
"About eighteen months ago the creamery to which we had been hauling milk shut down. Our product was about 400 lbs. of milk per day and we had very poor conveniences for making butter. So concluded we would try a cream separator. Being entirely ignorant as to the merits of the different machines, we thought the proof of the pudding was in the eating, so tried a Sharpless, U. S. and an 'Alpha-Baby' side by side. After a thorough test of six weeks we bought the 'Alpha-Baby' No. 2, even though it cost more than either of the others. Our reasons for making such a decision were, first, that its capacity was more than advertised; second, it ran with much less power; and third, it is of better mechanical construction and less liable to get out of order.
"At the time of selling milk to the creamery we were being paid for only 3.3 lbs. of butter from 100 lbs. of milk. After purchasing the 'Baby' we weighed 200 lbs. of milk, which was separated and churned, and the product was 8 lbs. of butter, cows being on grass without grain."
C. D. CARPENTER.

Send for New 1899 Catalogue

THE DE LAVAL SEPARATOR CO.

Randolph & Canal Sts., CHICAGO 74 Cortlandt Street, NEW YORK

NEVER VARIES IN STRENGTH

W., R. & CO.'S IMPROVED BUTTER COLOR ALWAYS THE SAME

The Last Drop is As Clear and Strong As the First

Nothing is more essential in a butter color than uniformity of strength, and this is impossible in the old-fashioned annatto colors. Wells, Richardson & Co.'s Improved Butter Color is a scientific product and never varies in strength or shade. It does not have to be shaken before using, and the last drop in the bottle is as clear and as strong as the first.

The highest dairy authorities both in the United States and England endorse this color in the strongest terms, and it is to-day used in over 90 per cent of the butter made in this country.

If you are not using this color, send 4 cents for postage on a free sample, to the manufacturers, WELLS, RICHARDSON & CO., Burlington, Vt.



4,000 Pounds
Is the guaranteed capacity of this wagon. It is equipped with
ELECTRIC STEEL WHEELS
with stagger oval spokes, broad tires, etc. It has angle steel bounds front and rear. It's low down and easy to load. One man can load it; saves an extra hand in hauling corn fodder, etc. A pair of these wheels will make a new wagon out of your old one. Send for free catalogue and prices.
Electric Wheel Co., Box 96 Quincy, Ill.

A FORTUNE IN CABBAGES.....

\$250.00 crop realized from one pound of VAN NAMEN'S EXCELSIOR DUTCH CABBAGE SEED. Late, large, round, solid, snow white, packet 10 cts.; ounce 25 cts.; 1 lb. 75 cts.; 1 lb. \$2.50. Earliest Dutch White Cabbage, packet 15 cts.; ounce 25 cts.; 1 lb. \$1.00. Excelsior Mammoth Cabbage, packet 20 cts.; ounce 50 cts.; 1 lb. \$1.75. Testimonials. C. H. JOOSTEN, Importer, 198 Greenwich Street, New York.

WOMEN'S WORK AND PLACE IN EUROPEAN LIFE

[CONTINUED FROM FIRST PAGE]

of every nationality, and I say it without exaggeration that the American woman is the most pure-minded and most honorable woman on earth, and that she has earned the place of honor which she occupies. She will lose it as soon as she ceases to earn it.

Now you are back again to your own fireside, to the home, poor or rich, to your hardships, great or little, but I know that there is scarcely a woman abroad with whom you would exchange your lot, certainly with no empress or queen. You are sitting upon an



exalted throne, you are wearing the noblest crown. Be heroic, be patient, be wise, and above all else, even though you are at the edge of despair, keep yourself pure.

SURFACE-CULTIVATION FOR CORN

Surface or shallow cultivation is becoming more popular each season, and is practised successfully by progressive and up-to-date farmers. It is very important to have the soil in good condition before planting, as it is much better for the intended crop and much easier of cultivation.

Surface-cultivation has many advantages over deep and rough cultivation. Of course, judgment must be used in regard to what tools to use and when to use them. If the season is wet, and the soil packed and heavy, I use a small one-horse cultivator with seven small shovels. If the season is dry I use a weeder, and find that in certain stages of the crop there is nothing to equal it. It breaks the surface around the young stalks without injuring them. It is also speedy and easy of operation. In the absence of a weeder a harrow made especially for the purpose will answer, but I find the weeder more satisfactory.

Surface-cultivation helps to retain moisture in time of drought. The crop should be cultivated quite often, and especially after each rain or heavy shower, to break the crust and form a loose fine mulch which prevents the moisture from escaping. If deep and rough cultivation is practised it exposes more surface, thereby evaporating the moisture and drying up the soil and depriving the crop of its necessary nourishment. Another good advantage shallow cultivation has over deep cultivation is that only the surface weeds have to be contended with. If taken in time a few surface-cultivations will entirely rid the crop of weeds. With deep cultivations while the surface weeds are being turned under other weeds are being brought to the surface to sprout and grow as did the preceding crop.

Another benefit derived from surface-cultivation is that it leaves the surface smooth and level and in good condition for all kinds of farm machinery. The plow, the mower, the binder, and, in fact, all kinds of farm machinery will do better work and last longer and are much less liable to breakage than over a rough, uneven surface. It also leaves the roots of the plants undisturbed, as nature intended they should be, to furnish moisture and nourishment to the growing crop. I have practised surface-cultivation for several seasons and find it entirely satisfactory and quite an improvement over the old way.
JOHN F. BURRIS.

CHANCE TO LEARN GARDENING

A Pennsylvania school-teacher, worn out with her work, wishes to know what chance there is for a woman to make her living by small-fruit farming. She writes, "I should gladly hire out to learn what is necessary if I knew where to apply. I know just how hard that is. I was turned loose on a farm for three months of every year when a

child, and know many things that most town girls do not know. I should be glad to know how to obtain more information concerning the training-schools. Is there not some place in this country where one may learn gardening, as there is in Europe?" I have given her advice about Cornell and other universities that are doing something in this direction.
E. P. POWELL.

NOTES FROM CORRESPONDENCE

FROM KENTUCKY.—Southern Kentucky has the finest climate of all. The temperature seldom falls to zero or goes higher than eighty degrees in the shade. We have a strong limestone soil, suitable for growing corn, wheat, oats and tobacco. Fruit does well. Garden-truck of all kinds grows abundantly. Land is cheap, ranging from \$3 to \$25 an acre. Northern men can do well here. Mules cheap, hogs and cattle are raised here largely.
Randolph, Ky. S. H. W.

FROM ILLINOIS.—Land is high in Livingston county, ranging from \$65 to \$140 an acre, depending on improvements and location. Our county capital is a thriving little city of 5,000 inhabitants. The state reformatory is located here, and has 1,400 inmates at present. The state owns one hundred and sixty acres near the city, on which the reformatory is built. Some of the boys work on the farm, and they raise most of their own vegetables. A large herd of cows is kept for milk and butter. This is a great corn and oat county. The yield of corn runs from twenty-five to sixty bushels an acre; oats, from forty to sixty. Pontiac, Ill. C. C. A.

FROM WASHINGTON.—We have an equable climate—no extremes of heat or cold—have a good deal of "Jupiter Pluvius" bounty. To those who live here, and prepare themselves for rain, it is not disagreeable to hear the gentle patter which visits us nearly every day from November to June. In the fruit and berry line we are rapidly going to the front. The strawberry of western Washington cannot be beaten the world round in size, color or flavor. We have many hundreds of quarts of wild black raspberries and dewberries on the river-bottoms and lowlands, which dry up on the bushes every year for lack of pickers, and there is no fruit in the world so delicious when preserved for winter use. The little village of Hillhurst is only ten miles from the flourishing city of Tacoma, and we travel to that city over the finest roads in the world, winter and summer. Our soil is a black, gravelly loam, and when forests are cleared out we find a reddish clay land, which is immensely productive of fruits and vegetables. Land can be bought for from \$1 to \$25 an acre, according to location and improvements.
E. A. R. Hillhurst, Wash.

FROM ARKANSAS.—Lonoke county is near the central part of the state. The northern division is hilly; the southern section comparatively level, sloping gently southward, affording all necessary drainage. Land is generally fertile, and some of it is very rich. We have both timber and prairie soils. Southern people principally occupy the timber land and raise cotton, corn, wheat, oats, potatoes, etc. Those from the northern and western states reside on the prairies and grow the same products, except cotton, giving more attention to stock and making hay for market. A great amount of stock lives on the range throughout the year. This is a good grain as well as grazing and dairying country. Apples, peaches, plums, pears, mulberries, blackberries, strawberries and grapes are grown successfully. Market facilities are good. There are four railroads in the country. With White river on the east and Arkansas river on the west we enjoy advantages of transportation. This is, in fact, one of the most favored sections of the southern country. Land is cheap, but steadily enhancing in value. Improved property can be bought for from \$15 to \$20 an acre.
N. T. Carlisle, Ark.

FROM SOUTH DAKOTA.—I have lived in Brule county for the past eighteen years, and have seen some pretty hard times. A great many people left this part of the state and were glad to get money enough to get back to their friends in the East. I was one that left here to look up a new home. I traveled in every state west of the Missouri river. I had heard so much about the South, so I went there and spent several months, but I came back here. This was during the dry years. Since that time this county has expended about \$100,000 in artesian wells, and at the present time has forty of the largest wells in the world, and over three hundred miles of ditches that carry water from the artesian wells in every direction, supplying water for stock. Quite a number of the farmers put down wells for irrigation purposes, but haven't needed them for the past three years, as we have had all the rain we needed. Wheat, oats, barley, flax and corn are our main crops. Corn yielded from twenty-five to fifty-five bushels to the acre last year, and wheat from fifteen to thirty bushels. This is the best stock country in the world, as the stock can rustle all winter and come off of the range fat enough for beef in the spring. Farmers are going into the dairy business more every year. There are four creameries in this county, and two of them are running twelve months in the year. There is one cheese-factory. Land is very cheap; the reason of this is that during the hard times people borrowed all the money they could get and never went back on the place, and now the loan companies are selling the land at very low figures. One can get good land for \$5 to \$12 an acre, on easy terms.
J. A. S. Pukwana, S. D.

Potash.

ENOUGH of it must be contained in fertilizers, otherwise failure will surely result. See that it is there.

Our books tell all about fertilizers. They are sent free to all farmers applying for them.

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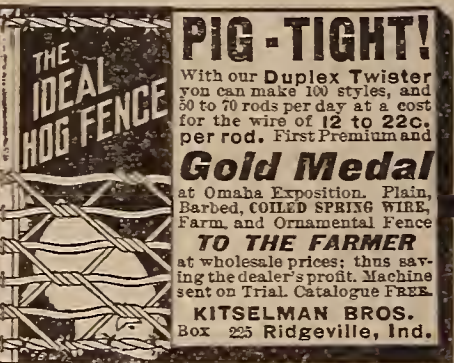
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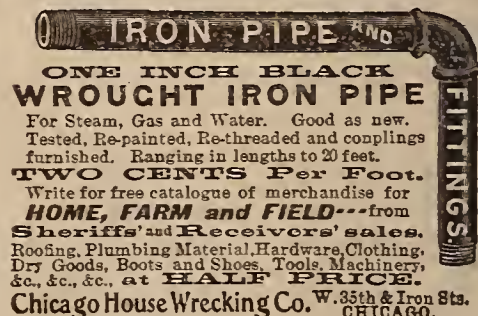
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Largest stock in America, including
Colorado Blue Spruce
and Douglas Spruce
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Also Ornamental, Shade
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RAISING YOUNG TURKEYS

SEVERAL readers of the FARM AND FIRESIDE have requested a special article on young turkeys. Sometimes the turkey-hens will begin laying early if the season is mild. In caring for young turkeys much depends on the feed for the first two months. The first food should be stale bread soaked in milk, also chopped onion-tops, and curd made from soured or clabbered milk by scalding it over the fire. To this add a little black pepper three times a week, and feed four times a day the first month. Hard-boiled eggs may be given three times a week, but do not give too much.

Turkeys require feed oftener than young chicks. Give them all the milk they can drink and plenty of fresh water. Give small grains of any kind for a change; millet-seed and pinhead oatmeal are excellent the first two weeks. Corn-bread mixed with sour milk is a good change. Never feed raw corn-meal, as it is not beneficial, and never leave feed to remain, as it may become sour, but give only as much as they will eat up clean at each meal. A little fresh meat, finely chopped, three times a week may be allowed. When old enough to eat corn feed anything they will eat, as after that the danger is over in regard to feed. Keep the coops clean and dry. Keep their drinking-cups clean, and do not expose turkeys to rain or dew, as they are very tender in regard to dampness; but in fair weather let them have range in the daytime, confining them to their coops at night. Give plenty of sand and sharp gravel. Give them a dust-bath of sifted coal ashes, it will make chicken-lice hunt other quarters, and use the lice remedies whenever necessary. Set the turkey eggs under common hens. They make good mothers, as they do not stray far from home, and can be confined with less trouble in small coops, allowing one hen to each coop. If kept confined a few days the hen will take her own coop at night. If the hen discards them very young, as is sometimes the case, drive them to their coops until they can fly to roost. An important point is to examine carefully twice a week for the large lice on the heads, a single one of which will kill a young turkey. One half of the young turkeys die from this cause. These lice come from the hens. The remedy is one or two drops of melted lard well rubbed in on the head, but be careful and use but very little, as grease is fatal to both young turkeys and chicks.

Turkeys will soon learn where they belong if care is used at first, as they can be taught to remain near the barn-yard, and the time to begin with them is when they are young. If the wings of the adults are cut they will not fly over a high fence. They can easily be made to thrive on a large lot. It is an excellent plan to feed them twice a day at one place, so as to have them expect their meals and come up for the food, but the morning meal should consist of only about a gill of wheat. At night give a full meal, one night wheat and the next night chopped meat. Where there are many trees they cannot easily be induced to go under shelter, but if the young turkeys are taught to go up at night, and are not allowed to remain outside, they will always come up, but that would necessitate the removal of the old ones after the young turkeys are three months old. Much depends on the forage. Turkeys like grass, seeds and insects, and will seek such foods if they do not have them on the ground. They will not bear close confinement, but will thrive on a large piece of ground. It does not pay to allow them to stray off if foxes, dogs or other enemies are numerous.

FEEDING DUCKS IN SUMMER

In summer it is not advisable to feed ducks on grain except in limited quantities. If they can get grass they need only one meal a day, composed of cooked turnips or potatoes thickened with bran, and in very warm weather they will thrive on grass alone. Ducks do not like whole grain, but prefer soft food. When winter approaches they may be fed twice a day, at night adding animal meal or cooked meat, but in summer grass is sufficient. Their runs, if they are confined, must be kept clean. If grass is

scarce give finely cut clover twice a day in summer, with the cooked turnips at night. In winter give the clover at noon. A little bone-meal once a day will be beneficial. There is no reason why ducks should not grow rapidly in summer, but if crowded or their yards filthy they will not thrive, as the kind of food is not all that is necessary to success. A duck should be fully grown when four months old, so far as size is concerned.

LATE CHICKS PROFITABLE

The chief difficulty in the way of hatching chicks in warm weather is lice. Keep lice away and the chicks will pay, even if hatched as late as July. It does not cost over five cents a pound for food to raise a chick to six months of age. At two months of age they can be sold readily, and also at any age over two months they bring fair prices. Chicks seldom sell for less than fifteen cents a pound, even when prices are very low; but supposing only ten cents a pound is received they will even then return a large profit. They sell best when asparagus comes in, small sizes being preferred, the prices depending upon the location of the market. April in the East corresponds with May in Chicago. From February to June is the best time for selling. There is always a demand, as prices for broilers in New York are quoted at thirty-five cents a pound for chicks weighing one and one half pounds each.

MOISTURE IN HATCHING

It is claimed that the nest of a sitting hen should be in a damp location, but the fact is that the hen selects a cool place in summer and a warm one in winter. To test the matter of moisture in incubators eggs were placed under hens and in incubators on the same day, and eggs used from hens and ducks. Every day the eggs were tested, both from the nests of the hens and from the incubators. It was noticed that the air-sacs (at the large end of the eggs) enlarge more rapidly in the eggs under the hens than in those in incubators. This demonstrated the fact that but little moisture, if any, was required in the incubators. As the incubation progressed it became necessary to turn the moisture-pans upside down and run the incubators dry, and even then the air-sacs in the eggs under the hens enlarged the faster. A stream of air was allowed to flow into the incubator, to evaporate the eggs sufficiently. The duck eggs evaporated more moisture than the hen's eggs, thus controverting the old theory of the ducks coming off the water to moisten the eggs. The result was a good hatch in the incubators and under the hens. The experiment shows that instead of eggs absorbing moisture they evaporate it, making room for air, as well as creating space for the turning of the chicks, and that many good hatches have been ruined by too much moisture. The eggs in the incubators were treated the same as those in the nest, and what applies to the incubators applies also to the hens.

GAPES AND A REMEDY

There are several remedies for gapes, but the difficulty is that sometimes the chicks must be handled. The difficulty occurs mostly on farms upon which fowls have been kept for years. It is caused by a collection of small, thread-like worms in the windpipe of the chicken. To kill these worms and not injure the chicken is laborious. Take a glass tube with a small rubber bulb (which apothecaries sell for a "medicine-dropper"), half fill it with camphorated oil, and inserting the tip in the windpipe, discharge the oil. A small oil-can used for sewing-machines may serve in place of the medicine-dropper. Operate as follows: Place the chicken back down between your knees, and hold it gently; open the bill and draw the tongue. Seize the lower mandible and tongue thus drawn out between the forefinger and thumb-nail of the left hand. This will bring into view the opening into the windpipe at the base of the tongue, into which gently insert the tube and discharge the oil, using about one drop. Close the bill and hold the head still for a few seconds. Then let the chicken

go, and it will cough, spattering some of the oil out, but enough remains to destroy the worms, and they will be coughed up and swallowed. The gapes continue for some time after the treatment, but the remedy will be effectual in every case if properly applied, and it may be readily repeated, if considered worth while, as often as necessary. After a little practice it is very easily applied and always succeeds. A bread-crum upon which is one or two drops of a mixture of camphorated oil and oil of turpentine forced down the throat is sometimes effectual, but it does not always reach the windpipe. Pulling out the worms with the strip of a feather is painful to the chick.

NOTES FROM CORRESPONDENCE

TO PREVENT GAPES.—When the chickens are four days old feed them corn-meal dough with vermifuge in it every other morning. Give them a teaspoonful in a quart of dough. Continue until they are three weeks old. I have used it with good effect. My chickens do not have the gapes when I use the vermifuge. B. A. Short Creek, W. Va.

DO CHICKENS PAY.—I heard there was money in raising chickens, so I commenced to keep books January 1, 1898. I started with eighty Plymouth Rock hens. During the summer I sold eggs and raised young chickens for market. Total number of eggs in 1898, 6,306, or 525½ dozens. I had 252 chickens hatched, but owing to the hawks being so plentiful I raised about 200 only. I sold some chickens for twenty-five cents apiece. Young chickens sold amounted to \$42.95; eggs sold, \$51.12; total, \$94.07. Cost of feed of large and small chickens, \$21.95; profit, \$72.12. I was then thirteen years old and tended the chicks myself. East Rochester, Ohio. L. H. H.

INQUIRIES ANSWERED

Enlarged Liver.—O. S., Thompson Falls, Montana, writes: "My fowls droop, have diarrhea, and on opening those that die the livers are enlarged."

REPLY:—Reduce the food, as the difficulty results from overfeeding, which has induced enlargement of the liver.

Soft-shell Eggs.—W. R. L., Linesville, Pa., writes: "Some of my fowls lay soft-shell eggs. What is the cause? I feed corn and wheat. Should hens have a dark or light place in which to lay?"

REPLY:—When hens lay soft-shell eggs it is a sure indication that they are too fat and are overfed. Reduce the food. All nests should be in a dark place.

Tumor.—A. W., New Haven, Conn., writes: "My Plymouth Rock cockerel has a swelling on the breast, on the opposite side of the crop. It emits a very foul odor and looks like a lump of raw meat."

REPLY:—It is difficult to designate the ailment without observation. It may be a tumor or the result of an injury. Bath twice a day with a solution of an ounce of sulphate of copper in a quart of water, and keep him separate from the flock.

Lameness.—E. F. D., Eustis, Fla., writes: "I have a gobbler that is very lame in the knee, it being swollen. He cannot get on the roost. I feed corn, but do not think he is overfat."

REPLY:—It is difficult to state the cause, as it may be from an injury of some kind. The only remedy is to feed lightly and keep him on straw, and apply ordinary liniment or extract of witch-hazel once a day.

Feeding Chicks.—E. A. C., Evansville, Wis., writes: "What is the best food for little chicks? Are incubators a success?"

REPLY:—Give pinhead oatmeal and millet-seed four times a day the first three days. Then add stale bread dipped in milk. After they are ten days old begin to feed them anything that they will readily eat, especially of millet-seed, cracked wheat and cracked corn. Incubators are a complete success.

Worms in Chickens.—J. J. G., Ogden, Utah, writes: "Please state how to cure tapeworm in chickens. I have some chickens of which I find tapeworms in their droppings."

REPLY:—Much depends upon the conditions under which they are kept, and a sure remedy is not easily found. A teaspoonful of sulphur and the same of spirits of turpentine in half a pint of corn-meal, moistened, given three times a week, is the usual remedy for six fowls, to be given in the morning.

Indigestion.—I. L., Swanton, Vt., writes: "I have a hen that stretches her neck, her crop gets full of water, and she can get no relief except by discharging it from her mouth."

REPLY:—The stretching is an effort to force the food from the crop to the gizzard, and the difficulty is due to some error in feeding. Give only one meal a day of chopped lean meat and onions. Add a teaspoonful of tincture of nux vomica to each half gallon of drinking-water for two or three days, and provide plenty of sharp gravel.

Overfat Fowls.—S. E. D., Meridian, Mich., writes: "My hens are fat, having been fed corn all winter. Just below the tail the feathers come out and a sore spot ranging in size from a dime to the top part of a common teacup is thus formed, which becomes red and inflamed, and in some bleeding from the spot has been detected. As a result a few have died."

REPLY:—It is caused by the use of foods rich in oil, and is a very common occurrence. Feed only once a day of chopped vegetables (allowing milk if preferred), and anoint parts with ichthyol. The fowls are in an excessively fat condition.

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QUERIES
READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least TWO WEEKS before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Seeds for Sets.—T. P. R., Oconee, Ga., writes: "How much onion-seed must I sow on one acre for sets? How shall I sow it?"

REPLY BY T. GREINER:—Use a clean, sandy loam, reasonably rich. Sow seed in drills a foot apart with some good garden-drill. Let the seed run freely, not less than sixty pounds to the acre. Sow in early spring. Run the drill on a clean board or on a sheet or canvas, and then make your own calculations as to thickness required and how to set the drill.

Cutworms, Squash-bugs and Currant-worms.—C. B. H., Breedsville, Mich., writes: "I mix a gill of kerosene with ten quarts of wood ashes. About twice a week during the cutworm season I sprinkle this mixture liberally around the plants. In this way I have driven the cutworms away and saved my plants. Keep watch, and when the squash-bugs appear sprinkle wood ashes properly over the vines. I have never had to make the application more than three times. To keep the currant-worms away I cover the ground all around the currant-bushes one half inch deep with wood ashes."

Tomato-blight.—R. M. D., Mobile county, Ala., writes: "What causes the tomatoes in the South to blight? Can you give a remedy to prevent it? Can you recommend any tomato that will not blight?"

REPLY BY T. GREINER:—The cause is a fungus or bacterial disease. There are several forms of blight. Use new soil as far as possible away from any ground where tomatoes, egg-plants, potatoes, perhaps even where melons have been grown before. Some varieties seem to be more subject to blight in some years, and vice versa in other years. Try the half dwarf sorts once.

Asparagus—Water-cresses.—Mrs. R. L. K., Parkersburg, W. Va., writes: "Please give the best plan of starting an asparagus-bed; also give name of best variety.—Where can I get water-cresses, and how can I get them started? I have a farm with a small stream of water running through it. It is fed by a never-failing spring, but the stream often swells during rains and washes the banks."

REPLY BY T. GREINER:—Thoroughly enrich and prepare a warm piece of ground. Get good, strong, one-year plants of Conover's Colossal, Palmetto or Columbian White, and set them in furrows six or eight inches deep. The furrows should be five or six feet apart, and the plants not less than two feet apart in the furrow. Cover gradually, keep well cultivated and free from weeds. Begin cutting the stalks the second season after that.—You can get water-cress seed from any large seed-house. Scatter it along the banks of the stream or along the spring, and it will grow and spread. It is entirely hardy and very rugged.

VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least TWO WEEKS before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to DR. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE:—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for their good reasons. Anonyms inquiries are not answered.

Abortion.—C. E. S., Kingman, Kan. In regard to abortion I refer you to back numbers—December 15th and February 1st.

So-called Ringworm.—S. K., Mt. Carmel, Ill. Please consult FARM AND FIRESIDE of January 15th and February 15th.

A Sick Hog.—W. S. P., Madison, N. C. Give a full description of the symptoms of your sick hog, and I will answer your question.

Paralytic Pig.—L. A. S., Fayetteville, Ohio. Please consult the numerous answers recently given to similar questions in these columns.

Two "Lumps" in the Udder.—A. L. H., Summerville, Tenn. Please consult answer given to S. A. D., Hillsdale, Ohio, in present issue.

Scab in Sheep.—H. R. P., Wolcott, N. Y. Want of space prohibits the publication of a long treatise. Describe your case, and I will answer you.

Chokes When Pulling a Load.—I. G. L., Custar, Ohio. May it not be that the harness (collar) used does not fit the horse, and causes the choking by compressing, perhaps, the jugular vein?

A Lame Horse.—J. D. C., Spartansburg, S. C. You state essentials, but do not describe the lameness; hence, I cannot answer your ques-

tion. Still, a lameness of three years' standing is not very apt to yield to any treatment.

String-halt.—G. E. B., Mauville, Ala. Fully developed string-halt must be considered as a practically incurable ailment; at any rate, none of the various methods of treatment ever proposed has been attended with any satisfactory results.

Mastitis in Two Quarters.—H. C., New London, Iowa. I cannot give you any advice that will be of use to you, because when this reaches your cow either has recovered or the two inflamed quarters of her udder are past recovery. You ought to have at once consulted a veterinarian.

Old and Stiff.—E. B., Kenton, Ohio. Possibly all that ails your mare is that she is old and getting stiff. There is no remedy for old age. Still, you may be able to benefit the old faithful mare to a certain extent by sending her to a good pasture from now until the middle of June, or until the fly-season sets in.

May be an Exostosis.—E. N., Cincinnati, Ark. If the "lump" on the lower jaw of your cow, which you say is hard and solid and of the size of a walnut, is firmly attached to the bone it may be nothing but an innocent exostosis, produced by an injury to the periosteum. If so, it may be left alone.

Aborted Three Times.—N. A. M., Tilden, Ill. If your cow aborted three times the prospect that she will not abort the fourth time is a very slim one. The only way to prevent her to come in heat is to have her spayed. As to the operation itself I regard Charlier's method, if properly performed, as the best and safest.

Probably a Case of Pulmonary Tuberculosis.—T. J. T., Mill Grove, Pa. What you describe looks like a case of tuberculosis in the lungs. If the symptoms and the appearance of the cow leave any doubt, have the tuberculin test applied. There are many good veterinarians in your state who know how to do it.

Sore in the Bend of the Hock-joint.—C. A. C., Waterford, Ohio. You will be able to bring the sore you describe to healing if you make twice a day liberal applications of a mixture composed of liquid subacetate of lead, one part, olive-oil, three parts, provided the horse has strict rest until a perfect healing has been effected.

Will Not Fatten.—G. C. McD., Waycross, Ga. It appears to me that you ask too much of a little Jersey cow; first, a large quantity of rich milk, raising a calf and fat production. A large yield of milk and fat production, except to a limited extent, never go together, particularly in Jersey cattle—a breed bred for the pail and not for the shambles.

Chronic Indigestion.—S. J. D., Ottawa Lake, Mich. Your mare suffers from chronic indigestion. The best advice I can give you is to turn her out into a good pasture productive of nice, sweet grasses, from now until about the twentieth of June. Don't ask me to advance an opinion on advice and prescriptions published in other papers.

Has Not Shed the Coat of Hair in Two Years.—S. J., Whitesville. If your mare, in spite of good food, good care and proper grooming, has not shed her coat of hair in two years, and has now a pelt two inches long, there must be some chronic disease, perhaps a chronic affection of the lungs, at the bottom of it. If not, blanketing and good grooming ought to cause the old hair to come off and to make place for a new coat. Turning out into a good pasture ought to have the same result.

Paraphimosia.—S. G. M., Mona, Wyoming. What you describe appears to be a case of paraphimosia. Immediately after it occurred it would have been comparatively easy to effect a reposition and to keep the prolapsed and very likely paralyzed member in its place by means of a suspensorium until all swelling and paralysis had disappeared; but as the case will be of about a month's standing when this will reach you, and as I do not know what morbid changes will be and have been effected by that time, I cannot advise you what to do except to call on a veterinarian, who may possibly have to amputate the member. Such a case demands immediate attention, because every hour's delay makes the case more severe and the treatment more difficult and uncertain of success.

Vertigo.—G. W. D., Santa Rosa, Cal. What you describe is a case of vertigo, a disease usually considered as incurable. In your special case I advise you to feed a little less, because the forcing and the rapid improvement of the animal, which you say was very poor when you got the same, and very likely was unaccustomed to good and highly nutritious food, has probably something to do with the attacks of vertigo. I further advise you not to use the animal on the road, but only for slow work—farm-work, for instance—at least until later in the season, when again you may try the horse on the road. There are horses who have these attacks only in the spring, and not at any other season, probably because in the spring the most important changes, not only in the feeding, keeping and using of horses, but also in the atmospheric conditions, are taking place. Don't feed any more condition powders, nor any other preparations the composition of which is unknown to you.

A Paralytic Cow—A Cow With a Tumor in the Mammary Glands—A Case of Garget.—S. A. D., Hillsdale, Ohio. If you make a close examination of your cow that has no control over the hind quarters you will probably find that the posterior part of the vertebral column has been injured. You may be able to ascertain the exact place of the injury by pricking the cow with a pin, first at the root of the tail, then a little further forward, and so on until you strike a place

where the sensitiveness is undiminished or even increased. If the tail cannot be moved at all by the cow, and if rectum and bladder are paralyzed so that dung and water do not pass until rectum and bladder respectively are full, the case is a hopeless one; whereas, if the paralysis is not complete, time and good care may effect some improvement, but hardly ever a complete restoration to a normal condition.—Your cow with the tumor, swelling, or as you call it, "lump" in the udder must be suspected of being tuberculous. I advise you to have her subjected to the tuberculin test.—In regard to the cow with garget, please consult the numerous answers recently given under that heading in these columns.

Thorough-pin.—J. E. J., Vernal, Utah. A thorough-pin, the same as a so-called bog-spavin, is caused by an abnormal accumulation of synovia in the joint between the tibia and the astragalus and a consequently abnormal expansion of the capsular ligament of said joint, and not, as erroneously stated, a bursal enlargement arising either from a diseased condition of the tendon of the flexor pedis muscle or dropsy in the sheath of this tendon. Thorough-pin and bog-spavin are essentially the same, and have their seat in the same capsular ligament. The only difference is this: A bog-spavin bulges out on the median part of the anterior surface of the hock-joint, while the bulging out of a thorough-pin takes in the angle formed by the tibia, the astragalus and the calcaneum on both the median and external surface, consequently from the posterior part of the joint. A gall having its seat in the sheath of a tendon can be removed without danger by a surgical operation, but any opening of a gall consisting in an enlargement of the capsular ligament of a joint, but particularly of such a joint as the one between the tibia and the astragalus, would be apt to ruin the horse and make him a worthless cripple. A thorough-pin without any other complications does not cause any lameness and cannot be removed, and at best only temporarily reduced, unless the causes can be removed. Therefore, as the latter consist in a defective formation of the joint resulting in an unequal distribution of weight and pressure upon its several parts, and in an overburdening of the joint—the more defective the formation the less overburdening is required, and vice versa—any treatment as a rule is devoid of satisfactory results. It is better to weed out all such blemishes in the future generations by excluding all the animals thus affected from breeding, except, perhaps, old stud-horses who may show slight thorough-pin in consequence of too much service.

Cream Feams and Fails to Produce Butter.—P. W. B., Palmer, S. D. What you describe occasionally occurs also in most carefully conducted creameries, and is ascribed to various causes. In your case, however, according to your statements, all of them but one or two are excluded, and even one of these, namely, milk of a cow that is too old milking (has been fresh too long ago, and is probably soon becoming fresh again), is probably also excluded, because you say you have kept the milk of both cows, the fresh-milking one and the old-milking one, separate, and cannot be accented if the separation was a strict one and if the milk of each cow was also churned separately. If this was not the case it would be worth while to make that test, but the separation must be of the strictest kind, because the milk of the guilty cow is very apt to infect and to spoil the milk of the other. There is one other possibility left, and that is that the trouble is caused by an infection of the milk with bacteria from an outside source. But as in such a case the source from which the infection comes is as a rule not known, and it is next to impossible to find it, the remedy to be applied necessitates a large amount of labor and precautionary measures, most of which would be superfluous if the source were known. Since that is not the case, every possibility, no matter how slight, must be taken into consideration, and every possible source must be closed. First, it is possible that the source of infection is in the stable, and the remedy would be to thoroughly clean and disinfect the same; or as there will be good pasturage when this reaches you, to take the cows out to pasture and to leave them there night and day. A second possibility may be found in an infection of the food. This, too, would be removed if the cows were sent to pasture. It is also possible that the cows themselves, but particularly their udders and teats, constitute the carriers of the infectious principle. This source can be closed by thoroughly washing the udders and teats before each milking, first with a five-per-cent solution of creolin as a disinfectant, and then with clean, warm water to remove the smell of the creolin. (To use soap would not be advisable.) Another possibility consists in a possible infection of the milking utensils, milking vessels, churn, etc., which, however, are easily disinfected with boiling water; but these undoubtedly have been treated by you in the proper way each time you have used them. Not knowing who attends to the milking, I will mention another faint possibility; namely, that the infection is communicated by the milker. If this should appear to you to be probable, insist that the milker washes his hands with soap and water and puts on clean clothes before each milking. If you should find that pasturing the cows remedies the trouble, have the stable thoroughly cleaned as soon as the cows leave it, and then have it thoroughly ventilated during the summer, as this will save you the trouble of disinfecting the same. I said above that all other sources appear to be excluded. As one of the principal ones is considered the existence of digestive disorders, but this, too, is excluded, because you say your cows never (before) were in such a good condition; therefore there can be no intestinal disorder, and no internal medicines will be needed.

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GOD'S LESSON EVERYWHERE

My learnin' don't amount to much, I'm willin' to admit;
I never got much schoolin'—had to work too hard—and yit
I guess there's truths a man can learn by simply lookin' 'round
Upon the things that grow on trees and come up in the ground;
There's sermons in the stones, they say; I guess they've hit it right;
There's lessons in the leaves and in the wind that howls at night;
There's lessons in the flyin' clouds and in the brooks that flow;
There's lessons in the raindrops and the cawin' of the crow,
And the feller who don't know it better put his books away
And git out awhile and listen to what Nature has to say.

I don't purlend to be as wise as people who can write
Big books about the distant stars that twinkle in the night;
The man who's been to college and comes out with a degree
Is probably more polished and far brainier than me,
But still, when sich a feller starts to make it plain and clear
That everything upon this earth jist sort of happened here—
Jist come all by itself without no help nor guidin' hand,
From nothin' out of nowhere—jist occurred, you understand—
Why, then, I have to think of things I see from day to day,
And wonder if Outdoors ain't the best school, anyway.

Some folks purlend they don't believe in God, because, you see,
They seem to think its kind of smart to stand up and agree
With educated fellers who are s'posed to be wise, and who say a man quits bizness altogether when he dies,
But I guess, if you'll examine, you'll discover that the men
Who have done the greatest things on earth all hoped to live again!
If Washington could go to church and praise Jehovah's name,
It ain't no great disgrace fer sich as me to do the same!
Jist take a look around you! God's put lessons everywhere—
Why, there's sermons in the thistle-down that tumbles through the air.
—Cleveland Leader.

GOSSIP IN THE HOME

I WAS thinking the other day of how many of the Ten Commandments are prefaced by the words, "Thou shalt not." I wish sometimes that there was another commandment, and that it was this, "Thou shalt not gossip before thy children." Indeed, not to gossip at all were wise, but certainly "thou shalt not gossip before thy children." How many little ones are thus offended; how many young lives are tainted by the uncharitable speech of their elders! Often the influence of a painstaking teacher is undermined by the careless comment or criticism of the mother; or often the power of the minister's sermon is brought to naught by some slighting witticism of the father.

Suppose the child comes in from school. There are callers in the parlor; they are chattering like magpies about this person and that person. After they leave the mother talks about them with the father at the tea-table, and the child, who has seen her pleasant and gracious with her guests, has its first lesson in duplicity and hypocrisy. And in many a home parlor a child gleans the idea of the all-importance of dress and fashion. We cannot help recalling the prayer of a little girl who, after a visitation of fashionable guests, knelt by her little cot at night and, after saying her customary "Now I lay me down to sleep," added, fervently, "And, Lord, do let us all be stylish! Amen."

I do believe that the solemn warning, that for every idle word we speak we shall give an account, has an added significance when that word is spoken in the presence of a little child. There are necessarily limitations to our protecting our children while on the streets. Sometimes they hear foolish talk—often, alas! they may chance to hear foul talk. Against this influence we must turn the pure tide of our conversation of "good report" at our own fireside.

I have not time in this brief paper to men-

tion all the home influences that should surround the child. There is one grace, however, that should be fostered at the fireside; it is the grace of hospitality. Let the child learn that the charm of true entertaining is the welcome extended to the visitor—let heartiness and sincerity be at the root. When you entertain guests do not let the child see that for days, perhaps for weeks beforehand, you are making yourself fretful and nervous because company is coming. Let him see that you are ready to give your guests your best, but remember that in your best is included your best self—calm self-possession, true gentleness, unruffled serenity, hearty cordiality. Soon there comes a time when the child himself becomes the entertainer; when, as a little host, his hospitality is extended to his young friends.—Child-Study Monthly.

A DANGEROUS HABIT

The danger of resorting to drugs for every trifling ailment has been forcibly brought before the public mind by the death of a woman, in Pittsburg, a few days ago, from taking a headache-powder. The effect of her death, it is hoped, will lead to some stringent measures being taken to prevent the sale of dangerous compounds, protected by patents, which are sold to any one credulous enough to believe in their all-curing virtues.

Many of the medicines which obtain a ready sale have for a basis cocaine, morphia, opium and all the kinds of aniline preparations, which, whether quick or slow, are deadly in their work, and judging from the immense sale of some of these medicines, a continual danger threatens the public. One compound widely advertised as a specific for brain troubles, as well as nervous weakness, contains so large a proportion of cocaine that in many cases its users have, before being conscious of it, become the victims of a habit almost impossible to renounce.

In the matter of taking drugs women are perhaps the greatest offenders. There are a certain class who, on the most trifling occasions, take medicines which they would be much better without. To ward off insomnia they take all kinds of tablets; to break up a threatened cold they take medicine more injurious to their systems, perhaps, than the cold would be.

Not content with dosing themselves, they extend their ministrations to their family circles, and many little children are lulled to sleep by sleeping potions, which, were their mothers aware of the dangerous ingredients they contain, they would never allow them to be tasted. If one must take medicine, it is much better to do so under wise direction of a family physician, especially if one is going to wander in the realm of the unknown. There are many old-fashioned remedies which are efficacious, and which may be used with satisfaction, but when it comes to accepting every medicine as good that is advertised as such, and, although ignorant of its properties, taking it with reckless faith, it is time to call a halt. Nine times out of ten it is best to dispense with drugs, and then when some real necessity for their use arises, the effect given is much better than if there had been a continual poisoning of the system by medicines which were not needed. Nature, if given a chance, will oftentimes work her own cures without the aid of nostrums, using only the pleasanter specifics of rest, sleep, fresh air and good diet, and she is usually a wise physician.—Presbyterian Banner.

A NOBLE TRAIT

One of the most striking traits of the character of General Grant was his absolute truthfulness. He seemed to have an actual dread of deception, either in himself or others.

One day, while sitting in his bedroom at the White House, where he had retired to write a message to Congress, a card was brought in by a servant. The officer on duty at the time, seeing that the president did not want to be disturbed, remarked to the servant, "Say the president is not in."

General Grant overheard the remark, turned around suddenly in his chair, and cried out to the servant, "Tell him no such thing. I don't lie myself, and I don't want any one to lie for me."—Michigan Christian Advocate.

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\$50 to the one sending within 1 of the correct count.
\$25 " " " 2 " " "
\$10 " " " 3 " " "

AND A \$1.00 PRIZE TO EVERYBODY sending within four of the correct count. Should two or more persons tie for any of the larger prizes they will be equally divided. All you have to do is count the number of spokes in the wheel nearest you in the picture (the one in which the spokes show plainly) and send the number to us with your address plainly written. There is only one condition to the contest should your answer justify us in awarding you a prize, you agree to get two friends to subscribe to our great story and family magazine. **DO NOT SEND US ANY MONEY.** But enclose with your answer a self-addressed, Stamped Envelope so that we can notify you at once if you are a winner. Contest closes Aug. 31.

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HOUSEKEEPING AND HOME-MAKING

In housekeeping, as in everything else, some women have more of a "knack" in managing and doing things than others have, but it is a mistake for a young housekeeper to get an idea that she does not have this mysterious "knack," and so excuse all her shortcomings and be content with a poor performance of her duties. There is no better way to learn to do a thing than by doing it. Experience and practice are the best teachers, and if one is thoroughly in earnest about becoming a good housekeeper she will certainly succeed, and all her mistakes and failures will be but stepping-stones to final success.

While even among good housekeepers there is a difference in methods, yet all will agree that much of their success depends upon system. Monday is almost universally used for wash-day, and this shows that it is the best day for that purpose, and so on with many customs of housekeepers, but we should guard against letting any system or rule control us so completely that we will not change, no matter what the circumstances. Above all things, do not become a slave to your work. Remember, as good a thing as it is to be a good housekeeper, it is a better one to be a good wife and mother.

There are some housekeepers whose paint is always immaculate, their carpets always swept, and not a fly-speck nor a fleck of dust to be found anywhere in their houses. Their table is always set with the best of viands, and they never appear to meet with an accident or make a mistake in their cooking; but they are slaves to the broom and the scrubbing-brush. They are nice housekeepers, but the days are too short for the accomplishment of anything else, and their whole minds become absorbed in the one idea of housekeeping.

If a woman had only to keep her house it would not be so hard a task, but if she be also wife and mother she must attend to a thousand and one other things. She must not only be cook and laundry-maid, but seamstress, teacher, nurse and physician. If she is not obliged to do all the manual labor of every department she must be the executive officer. To the great mass of housekeepers life is a struggle, and the days are filled, not only with work, but with care and anxiety.

In our zeal to become good housekeepers too many of us are prone to forget the higher duties of the home-maker. We must guard against becoming slaves to our housework. "The life is more than meat, and the body is more than raiment." If household cares and labors press, and we find ourselves giving to them all our time and thought, we must call a halt. Our children are only with us at best so short a time, and if, as we believe, the intellectual, moral and physical natures of people are largely shaped during the early years of their lives, how important that they be not neglected during this time!

This life is not long enough, nor the strength of woman great enough, to do everything we would like to do. Some things must be crowded out, and it behooves us to see that it is the things of least importance. If we cannot keep our houses in the immaculate style we crave, and fill our tables with the daintiest fare, still having time and strength to be the companion and comforter of our husband, the confidant, teacher and sympathizer of our children, we ought not to hesitate for a moment as to what must be left undone. The home should come before the house.

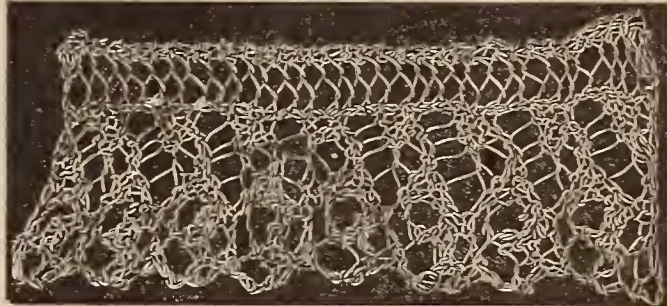
In after years, when the children have grown into noble men and women, imbued with a love for God and man, with a love for all that is pure, true and honest, or if, perchance, some have gone to the heavenly home, no mother will ever regret the time she gave to them in their childhood, and as age comes to her she will receive from them the same loving tenderness she so freely gave. But if she lets household cares absorb her time and strength; if she is always so tired as to be unfit to give the little ones the patience and gentleness required to train them into such habits as will fit them to do their part of the world's work, to be manly men and womanly women, and as the years go by they grow farther and farther away from her, how vain and bitter will be the regret!

MAIDA McL.

THE KITCHEN

We cease to wonder that housekeepers often become discouraged and suffer from overwork, or that girls who must earn their own living will seldom consent to work in a kitchen, when we inspect these same kitchens and find them so inconvenient and uninviting that they are, in fact, but miserable apologies for what they ought to be.

The kitchen ought to be large enough to admit of all the necessary work to be carried on their comfortably, but it is better to have a separate room for laundry-work if possible; in this case the kitchen does not need to be so large as otherwise. It ought to be well lighted and ventilated, but also arranged so as to be shaded from the burning rays of the sun in summer-time. The walls should be wainscoted, and above that painted in some light color; a light gray is



a good color. This painted wall does not absorb the odors of the kitchen, and when soiled may be washed. The floors should be painted either a uniform tint or by staining each alternate board dark, leaving the others the natural color, only giving them a dressing of oil. A good floor stain is made as follows: Mix about equal parts of raw and burnt umber with turpentine and japan, adding a little boiled linseed-oil to prevent too rapid drying. Have the floor perfectly clean and free from grease-spots, as they prevent the stain from drying. Apply the mixture with a well-worn paint-brush, rubbing it across the grain. In about ten minutes after finishing the floor go over it with a woolen rag and rub off all the surplus stain, rubbing this time with the grain. When the floor is perfectly dry apply a coat of boiled linseed-oil. About once in six months give the floor a coat of boiled linseed-oil and it will always look well. This is a good stain for old floors; if the floor is new, either ash or hard pine, merely giving it two coats of linseed-oil makes a very pretty floor. Never let an oiled or painted floor be scrubbed, only wiped up with clear, tepid water.

Steps, and too often needless steps, are what tire housekeepers and wear them out when they ought to be in their prime. It really seems as if some of our houses were built with the idea of making as many steps as possible for the housekeeper instead of saving them. The pantry is often separated from the kitchen by the dining-room, and there being not even a closet in the kitchen, all the material and utensils for cooking are at least twenty feet from the cook-stove. Sometimes, too, the stairs leading to the cellar are only reached by going through the dining-room.

The pantry should open into both kitchen and dining-room, and there ought to be a closet near the cook-stove for holding the cooking-pots, pans and skillets, also a few plates, bowls, cups, knives, forks and spoons, and a place for salt, pepper, spices, the vinegar and molasses jugs, etc. The cellar stairway should open out of the kitchen, and besides this there should be a dumb-waiter going down the cellar. It is hard to compute how many steps such an arrangement of the kitchen would save a housekeeper in one day, to say nothing of the number saved in a month or a year.

There should always be a pump in the kitchen, then a few feet of rubber hose will enable one to fill the reservoir on the stove without stepping from the pump or lifting a bucket of water. A good sink, with waste-pipe, is another step-saver, and, of course, fuel for the kitchen stove should be near at hand.

A high chair on which one may sit while doing many kinds of work which would otherwise require standing is a needed kitchen convenience. One of the easiest ways to get this is to remove the legs from an ordinary chair and replace them with longer

ones. Such a chair will prevent many a backache to the often tired housekeeper.

There are many other conveniences which any woman can contrive to save steps and lighten work in the kitchen. Let me whisper to husbands, it will pay you to spend some time and thought upon this same subject. Try it and see if your wives and daughters, instead of being "tired to death" all the time, cannot do their work so much easier that they will be enough brighter, happier and consequently better to more than repay you for all trouble and expense.

MAIDA McL.

TORCHON LACE

ABBREVIATIONS.—K, knit; nar, narrow; p, purl; sl, slip; o, over.

Use No. 60 thread and fine needles. Cast on 13 stitches, knit across plain.

First row—Sl 1, k 2, o, nar, o, k 5, o twice, nar, k 1.

Second row—K 3, p 1, k 3, nar, o, k 3, o, nar, k 1.

Third row—Sl 1, k 2, (o, nar, k 2) twice, (o twice, nar) twice.

Fourth row—(K 2, p 1) twice, k 1, nar, o, k 5, o, nar, k 1.

Fifth row—Sl 1, k 2, o, nar, (k 4, o, nar) twice.

Sixth row—K 8, o, nar, k 4, o, nar, k 1.

Seventh row—Sl 1, k 2, o, nar, k 1, nar, o, k 4, bind off 4, k 1.

Eight row—K 6, o, nar, k 2, o, nar, k 1.

Repeat from first row.

INSERTION TO MATCH LACE.—Cast on 17 stitches, knit across plain.

First row—K 3, o, nar, k 3,

o, k 1, o, k 5, o, nar, k 1.

Second row—K 3, o, nar, k 1, nar, o, k 3, o, nar, k 3, o, nar, k 1.

Third row—K 3, o, nar, nar, o, k 5, o, nar, k 2, o, nar, k 1.

Fourth row—K 3, o, k 3 together, o, nar, k 5, o, k 3 together, o, nar, k 1.

Fifth row—K 3, o, nar, k 1, o, nar, k 1, nar, o, k 3, o, nar, k 1.

Sixth row—K 3, o, nar, k 2, o, sl 2, k 1, draw slipped stitches over the knitted one, o, k 4, o, nar, k 1.

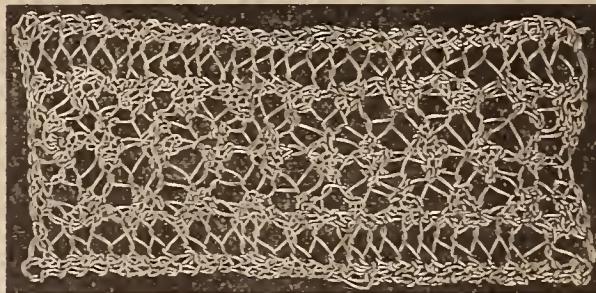
Repeat from first row.

This delicate lace and insertion would prove a lovely adornment to many articles that will suggest themselves to the knitter who prides herself on the result of her own handiwork.

Mrs. J. R. MACKINTOSH.

HOW TO MAKE ZWEIBACK, ETC.

For zweiback take a pound of flour, one fourth pound of butter, a pint of lukewarm milk, one yeast-cake, two whole eggs, the



yolks of two more and four ounces of sugar. Dissolve the yeast-cake in part of the milk and melt the butter in the rest of it. Set a sponge of part of the flour and yeast. When it is light add the rest of the ingredients, and knead until it is a firm dough. Make it into balls and set to rise again, then bake until a light brown. When cold cut the balls into halves and put again in the oven until a light brown and crisp. Before doing so you may brush them over with sweetened water and sprinkle them with sugar and cinnamon.

Another kind of small cakes which we know only by the name of "little Dutch cakes" is made thus: Take a pound of finely crushed almonds, sprinkle with a teaspoonful of vanilla, mix with a pound of fine white sugar, and slowly heat over the fire, being kept constantly stirred. Then the mixture is put into a dish, which must be well powdered with sugar beforehand, covered with a cloth and left in a cool place. The next day the mass must be well kneaded on a molding-board, with the white of an egg and two ounces of flour, rolled out to the thickness of a fourth of an inch and stamped with wooden cutters and cut into squares. After lying twenty-four hours in a dry, cool place they are baked on a well-buttered tin in a moderate oven.

To make "kipfel" take two and one half pints of flour, three eggs, one gill of cream,

one teaspoonful of cream of tartar dissolved in milk, a fourth of a pound of butter and a pinch of salt. Mix and beat thoroughly with a large spoon. Set to rise. When light, transfer the dough to the molding-board dusted over with flour, and roll out to a thin sheet. Cut into squares as big as the palm of the hand. Roll up the squares cross-cornered, like a turn-over pie, bend them so as to form a half moon, and set them to rise a second time; when light, bake them a light brown. Before rolling up the squares fill them with the following mixture: Blanch and pound to a paste two ounces of almonds, and add to them two ounces of currants and one and one half ounces of sugar, half a teaspoonful of cinnamon and the juice of half a lemon.

To make a German seed-cake take one pound of butter, twelve ounces of sifted white sugar, six eggs, grated nutmeg and powdered mace to taste, one pound of flour, three fourths of an ounce of caraway-seeds and one half gill of brandy. Beat the butter until the consistency of thin paste; sift in the flour. Add the other ingredients except the eggs and caraway-seeds, mixing all well. Beat the eggs separately and stir in the brandy, add to the other ingredients, and make into a soft, light dough. Roll out into a thin sheet and cut out into cakes by inverting a tea-plate on the dough and cutting around it with a sharp knife. Bake in tin pie-dishes. Stack the cakes up like jelly or other layer cakes, with an icing between the layers made this way: Two and one half cupfuls of sugar, add a little cream of tartar, and boil till it will drop in threads; then add whites of three eggs beaten to a stiff froth, and stir briskly till it is very smooth, adding the caraway-seeds slowly while you beat. This will be enough to put between the layers and frost top and sides.

Mrs. W. L. TABOR.

FASHIONABLE NOTES AND STATIONERY

The fashionable shades in stationery this year are blues and grays. The underglaze in squadron gray and lapis lazuli are both new, and hand-made paper in pure white, gris perle and blue are also in correct taste. Sapphire blue and amethyst pink are attractive in fine bond papers.

In shapes the prevailing fashion for correspondence, also for weddings, is the square sheets with oblong envelopes. Medium sizes in Clarice, Lorne and Gladstone are desirable for ladies' correspondence. The Victor, a small size, is useful for regrets and acceptances, while the tiny Mignon seems only destined to carry what Longfellow calls a "forget-me-not."

Monograms are used only in dainty designs and small lettering. Diamond-shaped dies with the address or monograms cunningly woven in are the newest design out, but round dies with wreaths, monograms and lovers' knots are still popular, and tiny ones stamped in gold with vermilion or vivid green as a color ground have a bright, jewel-like effect. Less expensive and more useful is simply the address neatly stamped at the head of the sheet and on the flap of the envelope.

Wedding invitations are engraved in clear, small script on square sheets of kid-finish or hand-made paper. All punctuation is omitted unless actually required to make the meaning clear:

Mr. and Mrs. Thomas Lauterdale
request the honor of your presence
at the marriage of their daughter
Isabelle

to
Mr. Henry Thorne Woodworth
on Wednesday, January the thirteenth
eighteen hundred and ninety-nine
at seven o'clock
St. Timothy Church
New York

Reception cards, which accompany the invitation, are worded as follows:

Reception
from eight until ten o'clock
1224 Lenox Avenue

Announcement cards are worded:

Mr. and Mrs. Daniel Warner
announce the marriage of their daughter
Rosamond Mayhew
and
Mr. Edward Marshall Trent
on Wednesday, December second
eighteen hundred and ninety-eight
Buffalo

At-home cards, which accompany the wedding announcement, give the future address and days of receiving:

At Home
January seventeenth and twenty-fourth
240 Delaware Avenue
Buffalo

Or if preferred, cards may be engraved:

Mr. and Mrs. Trente
At Home
After January seventeenth 240 Delaware Ave
Buffalo

Invitations are engraved on cards of varying size and also on folded sheets. Forms requesting the pleasure of "your company" are not considered so courteous as those which leave a blank to be filled in by the name of the guest. Recent cards issued from the Executive Mansion are worded:

The President and Mrs. McKinley request the pleasure of the company of Mr. John R. Mortimer at a reception to be held at the Executive Mansion Wednesday evening, January the nineteenth eighteen hundred and ninety-nine from nine to eleven o'clock

Some will be interested to read the following invitation to an Anglo-American reception:

Sir Francis and Lady Cook request the presence of the company of Mrs. Herbert M. Carroll and friend on Tuesday, fifth of July, to a garden party at Doughty House, Richmond, Surrey
Music
Three to seven

Formal invitations to dinner should be sent out from one to two weeks, or in the gay season from two to three weeks beforehand. They are issued in the name of both host and hostess, and are worded:

Mr. and Mrs. Charles Lanier request the pleasure of the company of Mr. and Mrs. William Fitzgerald at dinner on Thursday, March tenth at half-past six o'clock

Informal notes are worded as follows:

MY DEAR MRS. ELLIOTT:
If disengaged, will you and Mr. Elliott dine with us on Thursday at six o'clock. We shall be very pleased to see you. Believe me,
Sincerely yours,
ANNA HASKELL.

MY DEAR MRS. HASKELL:
Mr. Elliott and I shall be pleased to dine with you on Thursday evening at six o'clock.
Cordially yours,
CAROLINE ELLIOTT.

Invitations to luncheon or afternoon teas may simply have the day and hour written on the card of the hostess, or may be engraved on the Titian or Mignon size of rich paper.

A young lady's invitation of a girl's club to luncheon reads as follows:

Miss Alice Easton requests the pleasure of the company of The Clytie Club at luncheon on Saturday, April sixteenth at two o'clock

A very young lady does not issue invitations in her own name, but her name may be written or engraved underneath that of her mother.

FRANCES BENNETT CALLAWAY.

CROCHETED HEART DOILY

This dainty doily requires one half spool of Barbour's linen thread No. 60 and a fine steel needle.

ABBREVIATIONS.—Ch, chain; st, stitch; tr, treble; s c, single crochet.

First row—Ch 6, join.

Second row—Ch 3, 2 tr in loop, ch 2, 3 tr in loop.

Third row—Ch 3, 2 tr in same st, ch 2, 3 tr in loop, ch 2, 3 tr in last tr of loop.

Fourth row—Ch 3, 2 tr in same st, ch 2, 3 tr in loop, ch 2, 3 tr in loop, ch 2, 3 tr in loop, ch 2, 3 tr in last tr of third row. Continue in this way, widening each row, until there are 15 rows in all, the last row having 15 spaces or loops.

Sixteenth row—*** S c back to first space, ch 3, 2 tr in space, * ch 2, 3 tr in space, repeat to last space, then turn.

Seventeenth row—S c back to first space, ch 3, 3 tr in space, * ch 2, 3 tr in space, repeat until there are 6 clusters of trs.

Eighteenth row—Turn, s c back to first space, ch 3, 2 tr in space, ** ch 2, 3 tr in space, repeat to last space, turn.

Nineteenth row—S c back to space, ch 3, 2 tr in space, ch 2, 3 tr in space, ch 2, 3 tr in space. Fasten and break off thread. Fasten to the other side, and repeat the directions from ***.

When the second side is finished fasten thread to lower point, and go around the entire outside as follows: Ch 5, tr in same st, ch 4, tr in point of next row, * ch 3, tr in point of next row, repeat twice at the rounding part of the top sides, add a space in order to make the work lie flat. Repeat this row for the second row of border.

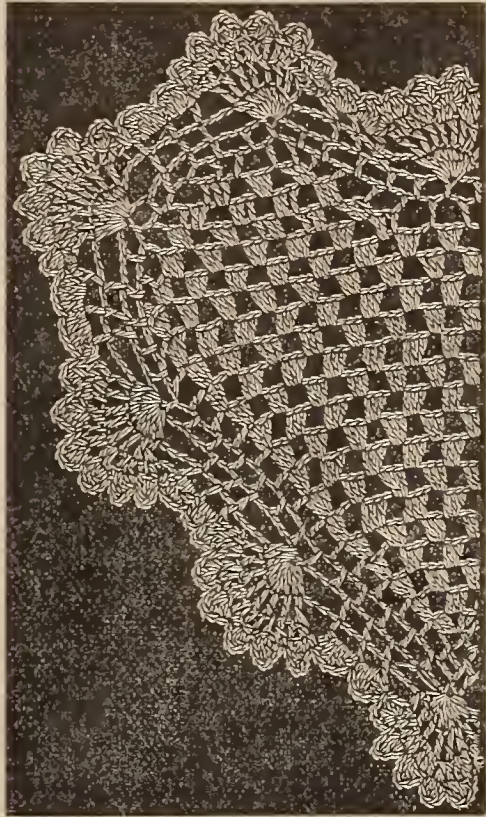
Third row—Begin at the center st of the bottom space, ch 3, 8 tr in same st, * ch 5,

skip 2 spaces, tr on tr, ch 3, tr on tr, ch 3, tr on tr, ch 5, skip 2 spaces, 9 tr in center st of next space; repeat around entire doily.

Fourth row—Ch 4, tr between first and second tr of fan, ch 1, tr between next two tr, repeat across fan, * ch 3, tr on tr, ch 3, tr on tr, ch 3, repeat.

Fifth row—Ch 3, 2 tr in first space of fan, 3 tr in each of the other spaces, skip space and fasten with s c in tr, 4 tr in space, 4 tr in space, repeat.

Sixth row—* 2 tr in second tr of fan, ch 3, 2 tr in same st, fasten with s c into next tr.



repeat across fan, s c across the 2 small scallops, and repeat fan.

Pin into shape upon a press-board, lay a damp cloth over it, and press until dry. This design makes a lovely pincushion when made from No. 30 linen, by placing it over a bright-colored satin cushion. The cushion should have a narrow ruffle around it.

Four of these hearts put together with No. 8 ribbon form a pretty tidy or sofa-pillow cover.
MRS. H. L. MILLER.

DEEP BREATHING

Physicians of renown have repeatedly made the statement, and are frequently reiterating the assertion, that if people but knew how to breathe, and would then give daily attention to the proper manner of inhalation, such a thing as a consumptive need never be known.

"There is no reason why any one should die of consumption, nor would the disease exist," says one of them, "if better care were given to general health and an understanding be gained of the right way and the wrong way of breathing." He further insists emphatically that consumption may not only be avoided where there exists what is known as a hereditary tendency in a family or families, but that the disease itself may be arrested when it has made even a considerable headway, and that the lungs may be restored to a healthy condition after the tubercular bacilli have for some time been carrying on their work of destruction of the lung tissue.

Ninety-nine per cent of the population are ignorant of the true and only right manner of taking into and expelling from the lungs the constantly inflowing and outgoing air that we breathe. Deep breathing is exhilarating and healing, while the practice so common of inflating but the upper part of the lungs proves dangerous. "Hard colds" may thus be accounted for, and many of the "tired feelings" that overtake the individual who takes less thought to proper personal care than to the amount of work that "must be done." Lung troubles so frequently follow that it is said one seventh of the human race die from some form of it. The assertion is appalling in the light of the fact that of consumptives there need be none.

The bacilli that carries on the work of destruction through the air-cells of the lungs cannot propagate or live in pure, fresh air. As the bacilli of other species, they thrive only where unhealthy conditions exist and where insufficient nerve-force lies.

One who has ever noticed and made examination of the lungs of animals, or even fowls, knows they are of a substance that is spongy and full of the minutest of holes. Through defective breathing but a few inches of the lungs are filled with air, while the lower parts of the lungs are retaining the poisoned, vitiated air that sooner or later brings disease in its wake. Hence our

consumptives and our sufferers from lung and bronchial affections.

Our physicians tell us that "women are the worst offenders in this respect." And it is because they wear clothes that are too snug, corsets that press down upon the lungs and the other vital organs, and it is difficult to breathe freely and deeply. Women who take more of forethought to "looks" in form and style than to health and to nature's ways of health provision soon learn to breathe less and less deeply, and the habit is soon acquired of breathing lightly rather than from the very depths of the lungs. Results of an untoward nature in some form must inevitably be the result. If the lungs are not perceptibly affected, because unusually strong, the brain and nerve centers will at least suffer. The blood in its passage through the lungs becomes laden with impurities, and the brain and nerves must suffer the effects.

But an understanding of right breathing carried into practice will work miraculous cures and cause many reforms.

Tight corsets and heavy-weight articles of wearing apparel are not conducive to a serene and happy state of mind, for general discomfort of body must prevail under those circumstances. And a discomforted body must reflect its woes upon faces. Moreover does it reflect itself upon the faces of children whose mothers have given more care to "form" and society demands than to right living.

Right living means right breathing to a great extent. It is a simple thing to acquire the habit of taking deep breaths, if persisted in. One may take this course of physical training without the services of a physician, and once thoroughly acquired the new habit becomes as fixed as was the old, unless one lapses into carelessness and indifference again.

Step out into the open air, or into a room with open windows and where there is no fire, and expand the lungs to their fullest capacity by a slow drawing in of the breath through the nostrils. Should the exercise need to be taken in a room warmed by fire, first introduce fresh air by opening doors or windows. Fresh air is all-important. After the lungs are filled and diaphragm expanded exhale the air just as slowly as possible, letting it pass out through the mouth.

If one's lungs are weak to begin with, the inhalation of air by the deep breathing process will prove painful. Finding that it is painful, the patient can cease drawing air into the lungs just as the pain gives warning. But in time the painful sensation gives way to a feeling of rest and exhilaration, and it becomes an habitual practice to thus conduct the breathing.

Our physician requires, and in fact demands, if his patient be a woman, that loose clothing be worn and the corset entirely discarded. If the patient is a man no such demands are needed. Men dress sensibly and in comfort. Women do not, as a rule, and in all probability they never will except as the warnings between life and death choosing demand it.

To master the "art" of right breathing one should take exercise of this nature several times each day, but not of periods of long duration. An aid to deep breathing for the purpose of filling the lungs to the very lowest air-cells is to raise the arms from the side, lifting them higher and higher until the fingers can be clasped above the head. This as the lungs are undergoing the process of filling. Gradually lower the arms again as the air is slowly expelled. It is an exercise not unpleasant to begin with, and one that grows easier and attended with pleasant sensation as the patient grows accustomed to it and as the lungs grow stronger.

This is assuredly the cheapest cure in the world—nature's remedy: pure, fresh air. And it is a deadly foe to tubercular bacilli. Nostrums will not reach diseased lung tissue, and our physicians are authority for the statement that cod-liver oils and other so-called remedies for consumption are but a waste of money. Many a man and woman to-day owe their lives to a persistent practice and general adoption of the physician's prescription that consists principally of fresh air taken into the lungs in the right manner. It is such a simple thing, though, that many will hesitate to accept it, and will go on believing in "change of climate" or cod-liver oils, or in the much worse belief that death is the only and ultimate end that is just in sight. But if we need not die of consumption and kindred ailments, why will we persist in it?

"The doctor" believes firmly in the bicycle for people of weak lungs and bronchial troubles from the fact that it is a violent exercise that compels the rider to puff and

blow. And thus a great quantity of air is drawn into the lungs and forced out again, of necessity carrying away with it impurities and air that has lain dormant in the lower air-cells and carrying death to the bacilli that is swarming and propagating in this diseased portion of the human body, that was intended one of the healthiest organs of the entire human system.

ELLA HOUGHTON.

THE SAND MEN OF CUDDLEDOWNTOWN

Cuddledowntown is near Cradleville,
Where the Sand Men pitch their tents;
In Drowsyland,
You understand,
In the State of Innocence;
'Tis right by the source of the River of Life
Which the Grandma Storks watch over,
While Honey-bug bees,
'Neath Funny-big trees,
Crown Lullaby in sweet clover.

'Tis a wondrous village, this Cuddledowntown,
For its people are all sleepers;
And never a one,
From dark till dawn,
Has ever a use for peepers.
They harness gold butterflies to Sunbeams—
Play horse with them, a-screaming,
While never a mite,
Throughout the night,
E'er dreams that he's a-dreaming.

In Cuddledowntown there are Choo-choo cars
In all of the beautiful streets;
And round bald heads
And curly heads
Are the engineers' one meets;
From Piggybacktown to Pattycakeville
The cars run, hissing, screeching,
While wonderful toys
For girls and boys
Can always be had by reaching.

Oh, Cuddledowntown is a Village of Dreams
Where little tired legs find rest;
'Tis in God's hand—
'Tis Holy Land—
Not far from mother's breast,
And many a weary, grown-up man,
With sad soul, heavy, aching,
Could he lie down
In this sweet town,
Might keep his heart from breaking.
—Joe Kerr, in Collier's Weekly.

A DEVICE FOR WATERING PLANTS

It is oftentimes desirable to water garden plants, yet to pour the water on the surface may bake it and so injure as much as it does good.

In order to avert this evil use a tin tube, the upper part of which is in the form of a funnel, as shown herewith. Have the tube half an inch in diameter, eight or nine inches long, perforated near the bottom, and with a conical end. Insert the conical end in the ground as near the plant as you think is convenient, without disturbing the roots, and turn the water into the funnel. The water will then pass out into the soil, through the perforations at the bottom, just where it should to benefit the plant. Only a moment's work is required for the operation, and great is the good it will achieve—especially if there is a drought and the plants have been freshly set out. In regard to tomatoes, peppers and the like, such a tube will pay for itself many times over. Truth to say, however, any local tinsmith can make it at a trifling expense.

FRED O. SIBLEY.

HOW TO KEEP BUTTER HARD WITHOUT ICE

Is there anything so distressing during summer months to the neat housewife than oily butter? Nothing, unless it is flies, and these she can dispense with by care and patience. Oily butter makes any carefully prepared table disreputable in appearance, to say nothing of the unpalatable result. There are many who are inaccessible to ice-dealers; fewer still who enjoy the luxury of a private ice-house. How to have hard butter without ice is a problem all have not solved.

The remedy for soft butter is as economical as simple. Purchase an eight or ten inch common, unglazed flower-pot. Wash thoroughly in clear water, then let it stand for an hour submerged in as cold well-water as can be procured. When saturated, drain a few minutes by turning jar upside down. Prepare your butter on a plate a few hours before meal-time. Fit a cork into the hole in bottom of jar to exclude hot air. Place the jar over the butter, and set on stone cellar floor. The result will be most satisfactory. If the butter is not as hard as when placed on ice it will retain its form and be hard enough for comfortable appliance.

PERCY FIELDING.

[CONCLUDED ON PAGE 12]

CURTAIN-STRETCHERS

SOMETHING that every housekeeper feels the need of in the spring and autumn is a pair of curtain-stretchers.

To be sure, you can send your lace curtains away and have them laundered at a cost of seventy-five cents or one dollar a pair, and you may have the additional satisfaction of knowing that your curtains will come home with many more holes in them than those originally placed there by the designer.

If the master of the mansion objects to attempting the work, hire a carpenter or do it yourself. You will need two pieces of pine each ten feet long, and two more each six feet long.

These pins should be headless and set at an acute angle inclining outward, so that the lace may be easily slipped over them and will not come off until you remove it.

In putting the curtains on remember to allow for shrinkage. Six inches in length and four in width is considered a sufficient allowance.

An ingenious woman could utilize a pair of quilting-frames as curtain-stretchers by fastening the lace to muslin strips at the ends and sides of the frames and rolling as tightly as possible.

In the stretchers proper the expense of clamps might be avoided by boring holes in both pieces of the framework and inserting pegs or pins to keep the stretcher in place.

MARGARET M. MOORE.

SECOND-BEST THINGS

"I won't have it at all unless it is the very best. I always buy that."

The speaker tossed her head and moved away from the counter where the patient clerk had been spreading out piece after piece of dress-goods.

No; I do not prefer cheaper things. I agree with you, they are of inferior quality. Still, they are better than nothing.

Like my sister, the average woman, I dislike to buy cheap clothing. But when I have to do it, is it not better to select wisely and then make the best of it?

Sisters, always have the best when you can afford it. Because you cannot afford the works of noted artists, however, do not leave your walls blank.

Enjoy life, even if your pleasures are second best. After all, what is life? It is glorious and God-given, yet is it the best?

HOPE DARING.

SHE THAT HATH EARS TO HEAR, LET HER HEAR

In the FARM AND FIRESIDE of March 15th the writer of this article gave a receipt for a washing-fluid. Through some accident an error occurred, and that which should have read dry ammonia read instead soda.

- 2 ounces of dry ammonia, 1 ounce of salts tartar, 3 ounces of borax, 1 box of potash, 2 gallons of rain-water.

Dissolve these ingredients, and put in airtight bottles or jars, as the liquid evaporates rapidly. You will doubtless have to purchase the potash at a grocery.

MARGARET M. MOORE.

A POSTAL-CARD CASE

For this useful ornament take two pieces of cardboard of the dimensions given, and having covered the outside of them with garnet, dark-blue or old-gold satin, embellish the inside with a color contrasting to correspond.



piece at the top for the opening, as shown in the illustration, and before joining it to the back either paint the design of olives and leaves upon it in water-colors or else outline them in fillosette of their natural hues.

FRED O. SIBLEY.

I AM

I know not whence I came; I know not whither I go; But the facts stand clear that I am here

I know that the earth exists. It is none of my business why. I cannot find out what it's all about; I would but waste time to try.

The trouble, I think, with us all Is the lack of a high conceit; If each man thought he was sent to this spot

Cease wondering why you came— Stop looking for faults and flaws. Rise up to-day in your pride and say, "I am part of the First Great Cause,

You Must Have a Watch!

WALTHAM WATCHES are the best you can buy. They are guaranteed by the AMERICAN WALTHAM WATCH COMPANY. The movement engraved with the trade-mark "RIVERSIDE" is specially recommended.

For sale by all jewelers.

"The Perfected American Watch," an illustrated book of interesting information about watches, sent free on request.

AMERICAN WALTHAM WATCH CO., WALTHAM, MASS.

Join the American Watch Club

Special Club Organized for Readers of Farm and Fireside



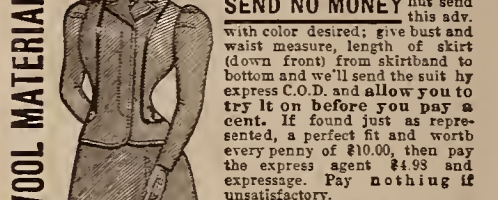
Open Face, with Monogram, Full 15 Ruby-jeweled Elgin Movement.

CO-OPERATIVE PLAN—Members secure wholesale cash prices and \$1.00 weekly payments. Club "C"—Finest 14-karat, gold-filled, 25-year case, with full 15 ruby-jeweled, Elgin, Remington or Waltham movement, any size, any style of engraving, hunting or open face.

MENTION THIS PAPER WHEN ANSWERING ADVERTISEMENTS.

Tailor Made Suit \$4.98

Silk Lined Jacket. ALL WOOL MATERIAL. Jacket elegantly silk lined, skirt superbly finished; made from Dahl's Celebrated Fast Color All-wool Fine Twilled Ladies' Cloth; equal every way to others \$10 suits.



SEND NO MONEY but send with color desired; give bust and waist measure, length of skirt (down front) from skirtband to bottom and we'll send the suit by express C.O.D. and allow you to try it on before you pay a cent.

THE SUIT is made by expert men tailors over designs drawn by that king of ladies tailors, M. LaRochelle, from Dahl's Best All Wool Fast Color Ladies' Cloth, famous everywhere for its rich soft bloom and beautiful appearance.

SILLY FOOLISH FIRMS advertise repellent cloth suits as "wool"; they don't say All Wool as we do, but "wool" in order to mislead you. All Repellent cloth is shoddy and half cotton, its worthless. Order their suits and ours, then choose between them.

Write for our Big Free Bargain Catalogue of other Suits, Skirts, Capes, Jackets, etc. THE LOUIS Z. VEHON CO., 155-157 W. Jackson St., Chicago, Ill.

NEW HAMMOCK

FOR 1899



SIZE OF BED, 36 by 76 INCHES

FREE

This Handsome Hammock given FREE for a club of EIGHT yearly subscribers to Farm and Fireside. See shipping directions below. You can easily make up a club of eight subscribers in one afternoon.

Has an easy pillow, to rest your weary head. Beautiful drapery on the sides. Is closely woven, in bright colors. Every Hammock has the new and improved steel spreader, reinforced with grooved wood. Is stylish, and so well made that it is offered on its merits.

GIVEN FREE FOR A CLUB OF EIGHT YEARLY SUBSCRIBERS TO FARM AND FIRESIDE

We will send Farm and Fireside one year and this fine Hammock for only \$1.60

(When this offer is accepted the name may be counted in a club)

SHIPPING DIRECTIONS—The Hammock must be sent by express, charges to be paid by the receiver in each case. When packed ready for shipping it weighs six pounds. Be sure to give express office if different from your post-office address.

NOTE—Thirty cents is the clubbing price for yearly subscriptions to the Farm and Fireside without a premium to the subscriber. But members of clubs may accept any of the premium offers and their names can be counted in clubs just the same.

ADDRESS FARM AND FIRESIDE, SPRINGFIELD, OHIO



A DEAD-SEA APPLE

By *Virna Woods*

Author of "The Amazons," "A Modern Magdalene," "Jason Hildreth's Identity," "An Elusive Lover," etc.



CHAPTER XI.

VEVA stood in the upper parlor, in the midst of an admiring group, surveying herself in the long mirror between the windows. She was arrayed in her wedding-gown, which had come up from Sacramento on the noon train. The filmy white draperies fell about her graceful figure in shimmering folds, the softly curved, rose-tinted neck and arms showing through meshes of delicate lace. From the crown of smoothly coiled hair on her head to the rosetted toes of the little satin slippers that peeped from the hem of her dress she was wonderfully dainty and sweet. So thought Mrs. Parker, as she smoothed and patted the sleeves and pulled out the skirt in a final adjustment, while Mrs. Fellows stood with her head cocked on one side, observing the effect with critical interest; and little Phil looked on in open-mouthed admiration. So, too, thought Theodore Bland, who stood in the doorway unnoticed and conscious of his masculine insignificance in the present crisis. Even Babens, dancing about the room and calling Veva "pitty fairy," seemed more in rapport with the occasion than himself.

However, it was to him that Veva turned when the clamor of discussion was over and her sister at last stood back with an exclamation of satisfaction. She did not speak, but he knew that she was asking for his approval.

"You look like a water-sprite," he exclaimed, "in robes of mist and foam."

Mrs. Fellows lingered to see the rest of the modest trousseau, to which Veva had allowed her lover to add nothing but the set of magnificent pearls he had given her for a wedding present. There was a brown traveling-dress, with jacket and hat and gloves to match; some dainty dainties and lawns, and several pretty morning-gowns. Besides these were a heavy cloth dress, a fur wrap, and a steamer-cap for the sea-voyage. Bland had insisted that she should leave something for him to get her in the cities they were to visit abroad. He was fond of picturing to himself the beauty and grace of his bride in the costly robes and rare jewels he would give her. And yet he thought she could never look more beautiful than in her simple white wedding-dress.

The marriage was to take place quietly at noon the following day, and after the wedding lunch the bridal pair were to take the train to Sacramento, where they would connect with the evening train to San Francisco. There their passage was engaged on the steamer, which was to sail the following morning.

It was all like a dream to Veva, a whirl of excitement and maze of delight. The day passed, and at evening she sat with Bland in their accustomed place on the veranda. It seemed strange to think that to-morrow she would be his wife. His hand reached out in the shadows and sought her.

The twilight faded on the hills, and in the sky that seemed to bend so close above them that they might reach it with uplifted arms the stars came out one by one, and the silver ball of the moon rose slowly above the horizon and flooded the pine-covered slopes, silhouetting against the sky the fir-fringed crests of the mountains and a distant, glimmering snow-peak. The lights of the village twinkled dimly at the windows, and over at the station two or three lounging figures looked like shadows in the moonlight.

Veva, who had passed the greater part of her life in the midst of the familiar scene, found it hard to realize that she would soon be on the sea and in strange foreign lands. The great outside world and the sweetest experiences of life were coming to her in twofold wonder and joy.

"I must have a fairy god-mother," she said, softly, "to bring me so beautiful a fate."

He laughed gently and lifted her hand to his lips.

"It was no one but yourself," he said, "for who could see you without loving you? And it might have been a worthier man than I," he added, with momentary sadness.

"Granting the possibility," she said, with a pressure of his hand, "I should not have loved him, for you are my ideal."

A shrill whistle sounded in the distance, and they heard the train thundering over the trestle. A moment more and it swept around the curve, shrieking and puffing into the station, which had rapidly filled with the usual number of gossiping spectators.

"I was sitting here," said Veva, "the day you came, and I saw your face at the window."

"Yes," he replied; "I remember. You were pink and white like an apple-blossom."

A man crossed the street and stepped upon the veranda of the hotel. As he did so, the hanging-lamp in the room behind them threw its light on his face. He was a young man, slight and fair, with good features, and a smile that seemed habitual. He carried a small satchel and a light walking-stick, and Bland knew he was from the city from the heavy overcoat thrown across his arm.

"Some traveling salesman," was his mental

comment; "but he has not been long from home influence, for he looks as innocent as a boy."

"Is this Mr. Parker's hotel?" the new-comer inquired, glancing from Bland to Veva and back to Bland. The proximity of the chairs was noticeable, although the lovers themselves had drawn a little apart.

"Yes," said Veva, rising, "this is Mr. Parker's hotel. I will take you into the office."

"If you would be kind enough to send some one for my traps," he said, "and would allow me to take a chair, I should much prefer the veranda for awhile to a stifling room. It's very hot up here."

As he spoke he flung his impedimenta into an empty chair and drew another in such a position that he sat opposite Bland. The latter's face, turned toward the new-comer in questioning surprise at his cool interruption of the tete-a-tete, caught the double illumination of lamp-light and moonlight.

"I wonder if the train was on time?" said the young man, drawing out his watch and holding it close to his eyes.

Bland was gazing abstractedly over his head, thinking that he should carry Veva off for a walk

a realistic setting for the end of a romance. I want to find a nice little town suitable for a fugitive to hide in, and where the unexpected denouement of the story may take place. Perhaps you can give me some pointers," he added, confidentially, hitching his chair a little nearer that of his unwilling listener, and gazing steadily on his pallid face. "Do you stay here long?"

"No," was the curt reply; "I leave to-morrow." The young man gave an almost imperceptible start.

"You return to the city?" he queried. "For of course that is where you came from."

There was a flutter of pink draperies at the door, and Veva came out, a white shawl thrown over her shoulders. A clumsy-looking boy appeared behind her.

"Gilbert will take your things and show you your room," the girl said, turning to the young man. "But of course you are at liberty to remain out here as long as you wish."

She turned to Bland, who had risen and started toward her.

"Shall we go up to the office?" she asked. "The mail is distributed by this time."

Bland needed no second invitation, and as he walked away by the side of the girl, the young man followed the boy through the hall and up the stairs to his room.

As Gilbert opened the door and set the valise on the floor the young man took a coin from his pocket and dropped it in the boy's hand. The boy took it mechanically and looked at it in silent amazement. It was a half dollar, and the first tip he had ever received, except from Bland, whose generosity he had always accepted as a part of the eccentricity of the mysterious stranger.

"What's it for?" he asked.

"Why," laughed the young man, "to buy cigars and brandy, or marbles and tops, whichever you

"Doin'?" echoed the boy. "Why, he's rich; he don't have to do no work. But he looks at Miss Veva's pictures and reads to her and goes walkin' and carries her parasol and easel and runs up to the office for the mail. Sometimes he helps Phil make a kite, or swings Babens in the swing he put up for her in the back yard."

"Where did he come from?" asked the listener. The boy grinned.

"That's more than I know," he said; "fur anybody else in this town, unless it's Miss Veva."

"That will do," said the young man. "Or, say," he added, as the boy turned to leave, "what time to-morrow is the wedding to be?"

"At noon, in the parlor up here," said the boy, jerking his thumb in the direction of the room.

The new-comer closed the door and lit the lamp on the bureau. Then he took out his watch and scrutinized a photograph that was pasted in the case. A rim of gold showed around the edge of the picture, as though it had been fitted in a smaller watch. The eyes looked back at him, fearless and frank; the face was smooth, the features regular and handsome. He looked at it closely and slowly nodded his head.

"Add ten years to it," he muttered, "a beard and a mustache, and it would be the same; there's no doubt about it."

He closed the watch with a snap, and replacing it in his pocket, walked out of the room and down the stairs. He paused a moment at the door, then sauntered across to the station.

The ticket-agent stood at the door of the waiting-room talking with Jack Coleman, the haggageman, who had just taken his empty truck back to the baggage-room.

The stranger addressed himself to the ticket-agent.

"Can you show me the telegraph office?" he said.

"Right in here," said Cartwright, turning and leading the way through the waiting-room. "I'm the operator. A little later and you'd have missed me; I've commenced to shut up already."

He unfastened the door as he spoke, and led the way into the office. The haggageman waited outside to hear the telegram when the operator returned.

It seemed to him a long time before the two men appeared, and with a polite good-evening the stranger crossed the street to the hotel. Cartwright and Coleman turned to each other, and the expression of irritation on the former's face gave way to a low chuckle as he noted the expectancy of the other.

"It was in cipher," he said, "and I had to go over it two or three times to get it right."

The face of his companion fell, but brightened with an afterthought.

"Who was it sent to?" he queried, with more haste than accuracy of expression. "He couldn't do that in cipher."

"To Robert Babcock, in San Francisco," said Cartwright; "and it was signed 'Avery'."

"Well," said the haggageman, moving reluctantly toward home, "it must be something he didn't want us to know. Blamed if I can think of any mystery here but that Bland fellow. But I hope it ain't anything to harm Veva."

"I thought of the same thing myself," responded the ticket-agent.

"And to-morrow her wedding day," said Coleman. "Well, I've mistrusted that man all along. He's not a fellow to look you square in the eye and tell you what he's doing."

And in Linnie Springs the worst crime a man could commit was to conceal what he was doing.

While this conversation was in progress, Bland, who had parted from Veva and retired to his own room, sat at his desk with the morocco-bound book before him.

"I must finish it to-night," he muttered; "now, when I can be alone."

He wrote rapidly, with knitted brow; but as time passed his features slowly relaxed to tenderness. At last he laid down the pen and put away the book. He rose and stood by the window in the moonlight.

"It is finished," he said; "it is past forever. I will try to put it out of my thoughts as it has gone out of my life."

But he sighed as he turned back in the room, and an uneasy thought he had striven in vain to banish kept him long awake that night. What was the stranger doing in the town, and why had he made the remark about wanting to find a town for a fugitive to hide in? Was it only a chance shot, or was it a ruse to make him betray himself? Was he to be tracked down at the last, just as he thought to leave the past behind him forever? And Veva—was any harm to come to her? The thought turned him cold with terror. Only one more day and they would be safe—beyond the reach of pursuit. Only one more day! But what was happening even now to change anew the course of his life? He tried to laugh at his fears, assuring himself again and again that it was the imminence of his promised happiness that made him fanciful of evil. And when he went to sleep at last it was with the thought of Veva warm in his heart.

CHAPTER XII.

A heavy fog had drifted in from sea and settled down on the city. The lights that outlined the ascent of the hilly streets struggled dimly through the heavy vapor like flickering torches, and the roofs and towers that rose above the indistinguishable mass of houses loomed vague and large, like the shadows of a dream-city. The bosom of the bay shook with shuddering moans under the whip of the wind, and the fog-horns sounded dismally across the waters. It was ten o'clock. On the main thoroughfares the crowds still surged in opposing streams, and the windows blazed with lights; but over in the dreary region of South Market street the dimly lighted streets were



"YOU LOOK LIKE A WATER-SPRITE"

when she returned, to get rid of their ill-timed guest. Otherwise he might have noticed that the latter looked longer in the case of his watch than on its face, and that as he closed it and replaced it in his pocket he shot a keen glance at Bland himself.

"You must find it dull here," he remarked, tentatively.

"Not at all," was the cold response. "If one has resonances within himself he is never dull."

"One must have a clear conscience to enjoy that sort of thing," laughed the visitor, looking in his companion's face.

Bland winced.

"Perhaps," continued the inquisitor, "you have not been here long."

Bland did not respond immediately. He tilted his chair against the house and crossed his knees. He looked across the street and saw that the little group of loungers in the station had already begun to disperse.

"What line of goods do you carry?" he said, turning to the young man.

"What line of goods?" repeated the latter, in evident bewilderment. "Oh!" he continued, laughing; "I see. You think I am a commercial traveler."

"And you are not?" queried Bland.

"Oh, no," replied his companion. "I am a story-writer, in search of local color. I am looking for

choose," he added, looking doubtfully at the slouching, overgrown figure beside him.

"And what'm I to do fur you?" persisted the boy, still incredulous of his good fortune, and afraid the doner would demand the return of the coin.

"Oh, talk to a fellow in this dull hole of a place," was the response. "Who are the chap and the girl I saw down-stairs?"

"Oh," said the boy, his dull face brightening. "them's Veva and Mr. Bland. They're going to be married to-morrow and go to Chiny on their weddin' trip."

"By Jingo!" exclaimed the young man, with a violent start.

"What's the matter, sir?" asked the boy.

"Nothing," was the reply, "except that I must have stepped on a tack."

"Guess it was a nail in your shoe, mister," remarked the boy, gazing open-mouthed at the shapely leather ties that adorned his companion's feet.

"How long has this man Bland been here?" queried the young man.

"Most a year," said the boy. "He went away, and Miss Veva got sick; then he come back ag'in and she got well, and now she's goin' to marry him."

"But what has he been doing in a place like this?" persisted the young man.

wrapped in impenetrable gloom, and the noise of car-bells, and of wheels on the cobblestones smote the ear with a muffled sound.

A messenger-boy stopped at a doorway marked by a colored lamp. He read the number aloud, then sprang up the dim stairway and rang the house-bell with unnecessary violence.

There was a moment's delay, then a door partially opened and a woman appeared in a frayed dressing-gown.

"For Robert Babcock," said the hoy, holding up a yellow envelope.

"Number sixteen," snapped the woman, and shut the door.

The hoy went whistling through the corridor, looking at the closed doors as he passed.

A light still burned in number sixteen. He stopped whistling and rapped loudly. A woman opened the door and took the message from his hand.

"Any answer?" he asked, cheerfully.

"Wait outside and I will see," she replied, and closed the door.

"Gee!" soliloquized the boy, as he proceeded to promenade the hall on his hands, with his feet in the air. "I won't make time this trip."

In the room the woman was sitting by a table under the gaslight, working out the cipher of the telegram. The profile of the thin, sharp-featured face was turned toward the sick man, who had lifted himself on his elbow in the bed; he saw that her lips twitched nervously. His eyes burned like coals, and his breath came in gasps through his parted lips. His hair was disheveled, as though he had been tossing on his pillow, and the white lock hung over his forehead.

The woman looked up, her face pallid and drawn. Her lips moved, but made no sound.

"Read it," said the man, gripping the bed-clothes with his emaciated hands.

Then her voice came, hard and metallic, and sounding to her like the voice of another person.

"It is the man. Calls himself Theodore Bland. Marriage to take place to-morrow noon. Sail for Asia the following day. Avery."

She looked up and started to her feet. The sick man had struggled to a sitting posture and was shaking his clenched hand in impotent rage.

"You must go," he said. "You must take the three-o'clock express, and you can catch the Sacramento morning train and get there before noon. You must go!" he screamed, as she stood petrified by the horror of his glaring eyes and livid face.

"But, father," she protested, "I can't leave you. You know that I can't leave you."

"But you must!" he cried. "I am going to die, but I don't care if only you foil him. Get the Bible and swear to me that you will go."

She dared not disobey, with those terrible eyes watching her from their sunken sockets. She opened a trunk and began searching for the book.

"Hurry!" he exclaimed, in a hoarse whisper; "hurry!"

She found the book at last and hastened to his side. He had fallen back on his pillows, still supporting himself on his elbow. His breath came in gasps, and a ghastly pallor had spread over his face.

"Hold it up," he muttered. "Now swear," he added, as she lifted the Bible in her hand.

"I swear," she said, in a low voice.

"Go on," he murmured, brokenly. She bent down to catch the words. "I swear—I will get there—by noon to-morrow—and stop the marriage," he went on.

She repeated the words firmly, then laid the book on the table, and pouring out a cordial, held the glass to his lips. They opened feebly, but made no effort to drink. The eyelids had partially closed, the whole face had relaxed. She started back with a cry, and setting the glass on the table, covered her face with her hands.

A loud rap roused her. She opened the door.

"Any answer?" said the messenger-boy, whose cheerfully stolid face did not betray the fact that for the last five minutes he had been looking through the key-hole with the wild delight he sometimes felt when sitting in the third balcony of a popular theater and watching a sensational play.

"No," she said, sharply; "but if you want to earn this," drawing a small coin from her pocket and holding it out to him, "go to Dr. Brownell's, around the corner, and tell him to come to see Mr. Babcock at once."

The boy was off like a flash. The woman closed the door and sat down by the bed to wait. The sick man was breathing heavily, his eyes rolled back under the half-closed lids. Outside the noise of traffic had died away on the street; within the ticking of the clock fell insistently on the listener's ears.

The minutes passed like hours. After what seemed an interminable interval she heard the sound of hurried steps on the stairs. She opened the door, letting out a flood of light on the dimly lit hall. The doctor bowed and entered the room. She closed the door and turned to him inquiringly. He was standing by the side of the bed, silently regarding the sick man. He turned as she approached, and a shadow of pity crossed his face, but he saw that she was prepared for the truth.

"He is dying," he said, gently.

"How long will he live?" she asked, in a steady voice.

"Several hours at the least, I should say," was the reply; "perhaps a day."

The audible breathing of the sick man sounded like moans of pain.

"Does he suffer?" she asked.

"No," said the doctor; "he is beyond that. He will undoubtedly pass away without regaining consciousness."

"And I can do nothing for him—no stimulant—"

"There is nothing to be done," he said. "Shall

I call your landlady for you? You will not like to be alone."

The woman's dark face flushed; she pulled nervously at the handkerchief she held in her hand.

"I don't know whether you will understand," she said, slowly, "but I suppose I must tell you. Just before my father became like this he made me swear that I would take the three-o'clock express for Sacramento to connect with another train. I can be back by day after to-morrow. The business is—urgent, and it was his last wish."

Her voice dropped to a whisper. She turned her head that he might not see her emotion.

"You are going," began the doctor.

"To Lupine Springs," she answered, steadily, turning and looking into his eyes.

The startled look on his face softened to an expression of compassion.

"I think I understand," he said. "You need not hesitate to go. I will send a nurse here as I go home, and I will see that everything is attended to. I will order a cab for you, too. Is there anything else I can do?"

"Nothing," she replied, "unless you would tap at Mrs. Avery's door as you go by and ask her to come to me."

The doctor bowed and started out, but turned back at the door.

"You had better take a glass of wine," he said, "and some light refreshment before you go. You will need to keep up your strength."

"Thank you," she said; "I will remember."

When he had closed the door she drew a small valise from the wardrobe and began packing it with her brushes and combs. The moans of the dying man were as regular and insistent as the ticking of the clock.

The night wore on. Still the city was wrapped in mists, and the wind kept shrieking among its hills and moaned over the black waters of the bay. But a hundred and fifty miles away, nestled in the hollow of the foothills, with the moon-silvered slopes stretching away from it toward the snow-traced line of purple peaks and distant horizon, Lupine Springs lay bathed in a flood of tender light that made delicate traceries of pine shadows on the ground and whitened the house-roofs glimmering from among the trees. The utter silence that brooded over the place was undisturbed by the faintest breath of vagrant wind among the pines. The hotel windows were open, and the odors of halsam and bay drifted in on the soft night air.

Theodore Bland lay sleeping, his face troubled and white. Of late an indefinable fear had crept into his heart to spoil his happiness; a feeling that fate must be against him, and was only cheating him with fallacious hopes. But after all his troubled thoughts he had fallen asleep with the image of Veva in his mind, and the thought of her purity and love had filled his spirit with an unaccustomed sense of peace. But fancy, unrestrained by the waking senses, and guided only by memories, had brought to him grotesque visions and phantoms strangely mingled of the present and the past.

He stood with Veva by the shores of the Dead Sea. It was night, and the moonlight lay pallid on the waters. Far off they saw a small, dark object rising and falling on the waves, and they watched it with eager curiosity.

"It is coming to us," said Veva; "I wonder what it can be?"

But he did not reply, for he felt that it was an omen of evil.

Nearer and nearer the speck came riding over the waves, until they saw it was round like a ball. Sometimes it was lost in the hollow of the waves, sometimes it floated on the top of the foremost crest; but it never changed its course, coming always nearer and nearer.

And Veva, watching it in the moonlight, began to be afraid and clung to him.

A wind arose and speeded the ball on its course. Nearer and nearer it came until the waves receding from it left it at his feet. He stooped and picked it up.

"It is a Dead-Sea apple," he said, and began to eat of it.

But Veva held out her hand.

"You must give me my part," she said; "it is too late for you to eat it alone."

And he broke it in two and handed to her her part.

And they ate, and it was bitter to the taste. And when they had eaten, Veva looked at him sorrowfully and drew away.

"Now I must go," she said.

Suddenly the skies darkened and the sea rose with a loud roar, and he looked for her and she was gone.

He awoke with a start of dismay and found the moonlight flooding the room.

"Is it an omen?" he muttered. "But anything is better than the other—the old dream."

And he turned again on his pillow and slept.

The train thundered on through the darkness, leaving the bay and its long arms behind, and dashing through the tules that rose tall and dank under the moon, just emerging from the enshrouding mists. Out of one of the car windows looked a face, strained and white, its eyes burning, its lips twitching nervously. Some of the passengers slept, lying across the seats with overcoats for pillows; others sat dozing, their heads swaying back and forth with the movement of the train. But the woman's eyes did not close, and the strained look of the face did not relax.

The moon waned in the sky, the first dim morning twilight brooded faintly over the valley and the hills. Again Bland slept, but only to spring from his couch with a cry and grope blindly for support against the wall. The sweat stood in drops on his forehead; his limbs trembled, his hands were convulsed.

"The dream!" he moaned; "the dream! And on my wedding morn!"

The sun that broke radiant over the hills struggled dimly through the fog that hung over San Francisco, and penetrated the shutters in a chill gray light that turned to a sickly yellow the single flame of gas in the room. A woman in white cap and apron sat beside the bed, and another, in a loose wrapper and with untidy hair, stood at the foot gazing on the pallid face on the pillow.

"Look!" she said; "his eyes are changing."

Rims of the pupils were visible below the lids; as they came more and more into view they took on a strange luminance. The audible breathing ceased, sighing gasps taking its place. The mouth relaxed, and the breath was suddenly still.

The nurse rose and drew the lids softly over the staring eyes.

Far away among the hills Veva still slept, a rapt peace on her face, her lips parted in a tender smile.

CHAPTER XIII.

The minister from Minerville alighted from the stage and walked slowly across the dusty road to the house. He was a tall, spare man of middle age, with sandy hair and a thin beard. Even in his leisurely movements there was an air of decision about him that accorded well with the determination of his face.

As he entered the hall a mingled odor of flowers and spice fell pleasantly on his senses. Mrs. Parker came from the dining-room to greet him.

"You will want to see them, I suppose," she said. "I will take you up to the parlor."

As he followed her into the room he glanced in surprise at the vases of choice flowers and the wedding-bell of roses that hung from the ceiling.

"Mr. Bland sent to Sacramento for them," she explained. "They came up last night."

She crossed the hall and pushed open her sister's door. Veva was sitting by a little table, her face buried in a hovel of orange-blossoms that had come with the other flowers the night before. She wore a white wrapper, and her bright hair fell in rippling waves over her shoulders. Her trunk was packed and roped, and a small valise stood open and half filled on the floor.

"Mr. Barry has come," said Mrs. Parker.

"Oh!" exclaimed Veva, flushing and trembling slightly. "I must hurry and get dressed."

"I will tell Mr. Bland that Mr. Barry is here, and come back and help you," said Mrs. Parker. "There is no great hurry. Mr. Barry is early; but of course he had to come on the stage."

Bland turned from a box of books he was arranging as she tapped at his open door. On top of the pile a morocco-bound manuscript lay open. He carefully closed it and slipped it in place at the back of the box before he rose.

"Mr. Barry is in the parlor," said Mrs. Parker. "I am all ready," replied Bland; "I will go in." But he locked the box and put the key in his pocket before he left the room.

Meantime at Sacramento station a faded woman paced back and forth on the platform, her face rigid, save for the eyes that looked restlessly from the clock to the curving rails beyond the depot. A train of three coaches stood on one of the tracks, and she stared now and then at the two placards displayed upon it. One was in Chinese; the other read, "This train for Lupine Springs and Minerville." The train had been made up for nearly an hour. At last she turned to the ticket window and spoke with some asperity.

"How much longer do we have to wait? You said we would be only half an hour late, and it's already forty minutes."

"I don't know, madam; till the southern train comes in," said the ticket-agent. "Check your baggage at the end of the platform, sir," he responded to the inquiry of a man purchasing a ticket.

"And if the southern train should not get in before to-morrow?" said the woman, with a sneer.

"It's expected every minute," he said, without looking up.

"Will we get to Lupine Springs by noon?" she persisted.

"I couldn't say, madam; you may, if they make up time."

"What do they wait for, anyway?" she asked, querulously.

"The mail," returned the ticket-agent, laconically, and went on counting out change.

The woman turned away, jostled aside by the line of people crowding up to the ticket window.

"The mail!" she repeated to herself, resentfully.

"What is the mail compared with my necessity?" She looked in the telegraph office uncertainly.

"No, I won't telegraph," she muttered; "it would only put him on his guard. They might go to Minerville, and so escape me. But I would follow them to the antipodes."

Then she remembered that at the worst she could stop them before they left Lupine Springs, for they must wait for the train that would take her up. But to her dying father she had sworn that she would get there before the marriage, and she had sworn it again to her own heart. She pressed her lips together and clenched her hands. That moment she heard the whistle of the train.

All morning they sped through the valley and up the bluffs, swinging around curves and rattling over the trestles with a speed that would have terrified her in a calmer mood. But now she only pressed her face against the window, that she might get the first view of the village, and whispered, "Faster, faster!" to still the beating of her heart. Ever before her eyes alternated two scenes in mad rapidity of succession; in one a dark face lay among the pillows, with half-closed, glazing eyes; in the other, a woman in bridal-ropes clung to the arm of a tall, fair man who

hent over her, his lips seeking her mouth. The visions were so real that she wanted to cry out, but she only muttered, "Faster, faster!" until the woman behind her thought she was repeating prayers. Her watch lay open on her lap and ticked away the minutes with maddening monotony. She longed to dash it on the floor and shiver it in a thousand pieces. "Faster, faster!" The words had become an articulate moan.

At Lupine Springs the wedding guests had assembled in the hotel parlor, and were waiting for the bridal party, who still lingered in the girl's room. Mrs. Leonard had stationed herself in an easy-chair opposite the door, and her inquisitive eyes peered expectantly through her glasses across the hall at the closed door of the girl's room. Then, glancing through the window, she noticed with surprise that a young man was standing on the upper veranda and looking impatiently up the railroad track. Through her husband she had heard of Avery's arrival the evening before, and of the cipher telegram; she wondered when she would have an opportunity to inquire about him.

"He seems looking for the train," she said to herself, wondering meanwhile why it had not come, and thinking of the unfortunate postmaster, who had been obliged to remain at the office to distribute the mail.

"Mr. Leonard won't get here at all," she whispered regretfully in the ear of Mrs. Fellows, who sat beside her, serenely conscious of the dignity of her best gown.

The lady addressed turned with a rustle of silk that she considered particularly impressive.

"Nor the men at the station," she rejoined, glancing through the window at the impatient loungers on the depot platform. "It is too bad the train had to be late to-day; it will spoil Veva's wedding."

"If they would only wait awhile," said Mrs. Leonard, uncertainly. "But it would be unlucky. Besides, they wouldn't be ready for the afternoon train, and the dinner would get cold. They say he's ordered champagne."

"Yes," replied Mrs. Fellows, in an awed whisper; "I saw the bottles. And there's ice-cream for the reception."

"I knew that," said Mrs. Leonard, with an air of superiority, "for Dora Parker borrowed my freezer. Her own wouldn't hold enough, and she said she was bound to do her part."

At this moment little Phil appeared at the door with Bahens in his arms. The child slipped down and ran to Mrs. Cartwright, who sat on the opposite side of the room.

"Aunt Veva all pitty," she announced, gleefully. "And Bahens pitty, too," she added, holding out the gauzy white folds of her little gown.

Mr. and Mrs. Parker came in and sat down by Mrs. Cartwright. The wife's face looked very young and pretty with the flush of excitement upon it. The man seemed older than ever in his unaccustomed suit of shining black. He beckoned Phil to the seat beside him. Mrs. Parker took Bahens on her lap.

The hum of conversation went on. Mr. Adams, the postmaster's rival in the mercantile interests of the town, nudged his neighbor, the proprietor of the hotel opposite the school-house, and nodded toward the young man outside.

"Why doesn't he come in?" he said. "He'll miss the ceremony."

"Seems more interested in something else," was the response. "What's he doing here, anyway, with his cipher telegrams, I'd like to know?"

"Maybe you'll find out, and maybe you won't," chuckled the other. "I guess he knew what he was about when he wrote in cipher."

"It's too bad they're going away this afternoon, and can't have a dance to-night," said the wife of the last speaker to Mrs. Adams, reminiscent of her own rustic wedding.

"Oh, I don't know," rejoined Mrs. Adams. "Veva couldn't stand so much excitement. I wonder how she'll bear up under the ceremony?" she added, in the tone of one speaking of a funeral.

"It's Mrs. Parker it's hardest on," said her companion; "but to look at her now you wouldn't think it."

Indeed, for the moment all thought of parting and of after-loneliness was swallowed up in Mrs. Parker's mind by her housewifely anxieties. If only everything went off all right, she told herself, she would ask for nothing more. Even the bitter contrast to her own loveless marriage was forgotten in the dominant instinct.

Meantime, in the girl's room, Veva and Bland had stood up before the minister to go through a rehearsal of the ceremony, that there might be no mistake before the spectators.

"Will not this be the real marriage if we make the responses now?" asked Veva.

The minister looked perplexed.

"Why," he said, doubtfully, "I suppose it might hold if the bridegroom took a sudden notion not to marry you after you stood up in the other room, or if some one should shoot him as you were crossing the hall. But practically it makes no difference. I always have my couples practise when I can. It prevents any chance of a hitch in the ceremony."

"What blunder could possibly occur?" persisted Veva, grown suddenly reluctant to go through the form.

"Well," responded the minister, "I remember one couple who came to me from the country. They had evidently been more accustomed to a court of justice than to church ceremonials, and when they stood up before me they raised their hands to be sworn."

"We would hardly do anything so bad as that," said Veva, smiling; then she looked up at Bland, hesitating to say that a rehearsal would make the second ceremony seem like a farce to her.

"What is it, dear?" he asked. "You don't

object to marrying me a few minutes sooner than you expected to, do you?"

She did not answer, but slipped her hand again on his arm. She would not be foolish, she told herself. If Theodore wished it done it must be all right. So it was in her own room that she spoke her marriage vows, without witnesses, save the man on the veranda, who had paused, as though petrified, by the open window.

"What God hath joined together let no man put asunder," said the minister, solemnly.

Bland bent his head and kissed her tremulous lips.

"My wife!" he said, with reverent tenderness. She lifted her head and looked at him. In the flash of a second a transfiguring luminance had shown on her face and in her radiant eyes.

"Now," he said, gently, "we must go; they are waiting for us."

"Well," said the minister, in satisfied approval, "I do not think anything will happen to disturb the smoothness of the ceremony."

But even as he spoke the words the memory of his dream of the Dead-Sea apple struck a sudden chill to Bland's heart. He glanced through the window and saw the young man from the city standing on the veranda and looking despairingly, as it seemed to him, at the curve of railroad track around which the train must come.

"The train is late to-day," remarked Bland, as they heard the whistle around the curve. The next moment the clock struck.

"Come," he said, looking down at Veva, whose face had turned suddenly white. He smiled reassuringly and pressed her hand gently as he drew it farther through his arm. Then the color came back faintly to her face, and she thrilled with a delicious sense of love. He was her husband now, she said to herself, and no one could take him away from her.

They entered the room and stood beneath the bell of flowers. The orange-blossoms that Bland had given her were in the white laces on her bosom and in her hair; the pearls were clasped about her throat. Her eyes drooped under the admiring scrutiny of her friends, and a soft flush suffused her delicate face. Bland looked down at her in tender adoration that even then did not entirely veil the habitual sadness of his eyes. Avery had entered the room, but stood where he could see the station platform through the window.

The minister began the solemn words of the ceremony. There was a sound of hurried footsteps on the stairs.

"Do you, Theodore Bland, take this woman, Veva Gladding, to be your lawfully wedded wife, to love, honor and cherish till death shall part?"

The bridegroom lifted his head that he might answer more clearly. In an instant his face had changed. The blood had left his cheeks, his eyes stared wildly toward the open door. The people, following his gaze, saw a little, faded woman in black standing at the threshold.

Veva looked from the woman to the man at her side. In that moment he had shaken off her clinging arm and had sprung to the intruder with a low cry.

"Ella! Ella!" he exclaimed; "is it you, or am I mad?"

The subtle look of suffering had gone from the eyes; his face was illumined with a radiance that Veva had never seen there before.

"Yes," she replied, in a voice of terrible distinctness; "it is I, your lawful wife."

He leaned forward and laid his hand on her arm, as though to assure himself of her tangible presence.

"Thank God! thank God!" he cried, falling back a pace, still looking at her.

"What do you mean?" demanded the minister, coming forward and laying his hand on Bland's shoulder. "You have attempted bigamy."

"Committed it, you mean," said Avery, coming forward with a sneer.

"Before heaven I am innocent!" Bland exclaimed. "I swear to you that I thought my wife was dead!"

"But you are not sorry that I am alive?" asked the woman at the threshold, with a trembling eagerness.

"No, no!" he cried; "I thank God for it!"

As he spoke a transforming happiness had flashed over the troubled, faded face. The woman sprang forward suddenly and flung herself on his breast. None but the minister, who was facing him, saw the look of aversion that came into his eyes as he tried gently to disengage the arms that were clasp his neck.

They turned at a heavy, thudding sound. Veva had fallen backward and lay motionless on the floor.

[TO BE CONTINUED]

A NEW BUILDING MATERIAL

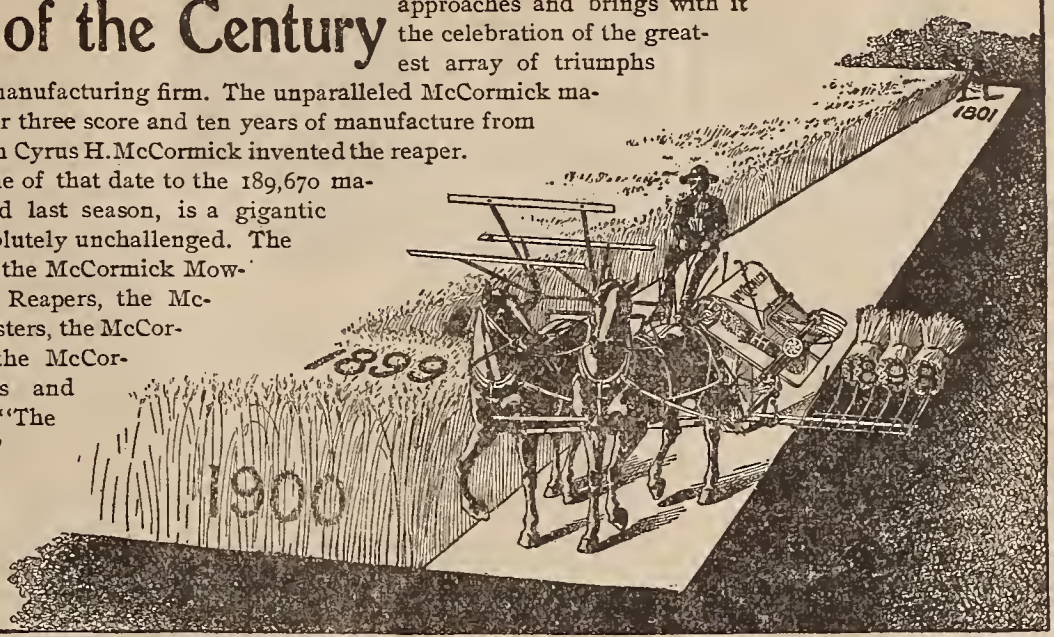
A new building material has been invented in Switzerland, the main ingredient of which is waste paper. The substance is called papyristite. It is an artificial stone, which is spread like a cement, and which hardens in twenty-four hours. Its peculiar properties make it of great value. It is as hard as marble, yet is noiseless and feels of a velvety smoothness to the feet. It is also light in weight, and is very inexpensive. It is intended principally for floors and roofs, a roof frame having been patented to use with it, making the roof when finished without seam. The papyristite can be treated to look like marble or mosaic, and in spite of its hardness can be sawed and cut without difficulty. It is impervious to dirt or filth of any sort, as it is without seam. Architects and builders of different countries have examined and tested the new product and seem invariably to give it their unqualified approval. It appears to be well adapted to cold as well as to warm countries, showing no tendency to contract or warp.

The End of the Century

approaches and brings with it the celebration of the greatest array of triumphs ever credited to one manufacturing firm. The unparalleled McCormick machines will reach their three score and ten years of manufacture from 1831, the year in which Cyrus H. McCormick invented the reaper.

From the one machine of that date to the 189,670 machines built and sold last season, is a gigantic growth of output absolutely unchallenged. The McCormick Binders, the McCormick Mowers, the McCormick Reapers, the McCormick Corn Harvesters, the McCormick Hay Rakes, the McCormick Corn Huskers and Fodder Shredders are "The Best in The World."

McCormick Harvesting Machine Company, Chicago.



CUBA Plantations and Homes

THE GRANDEST COLONIZATION ENTERPRISE EVER OFFERED AN INDEPENDENT, LIBERTY-LOVING PEOPLE.

The following Plantations in one of the Choicest, most Beautiful and Fertile spots on the most Fertile Islands in the World are to be given free to first applicants as follows:

100	Plantations of 40	Acres each.
200	"	20
400	"	10
800	"	5
1600	"	2 1/2
1500	House and Business Lots.	



IT COSTS NOTHING TO ANSWER THIS. READ IT CAREFULLY. IT MAY BE YOUR FORTUNE.
Over 700 People Have Joined Our Colony in the Last 60 Days. Over 7000 Will Join It Before November Next.

This Company is incorporated with a capital of \$1,000,000, for the purpose of buying, selling, improving and cultivating lands in Cuba. Establishing and operating Steamship Lines, Railroads, Mills, Factories, Hotels, Docks, Plantations, &c. Our Real Estate experts have been in Cuba since Jan. 7th, and have bought and are buying choice Tobacco, Sugar, Banana, Pineapple, Coffee, Fruit and Vegetable Lands. With the sole object of making all of this land worth twenty times its present value, we have inaugurated the most gigantic and liberal Colonization enterprise in the history of the world. With a broader business policy than has characterized any similar enterprise the Company propose to give away the above specified House lots, Business lots and Plantations of from 2 1/2 to 40 acres, free to found an American colony.

THE LAND IS FREE

No charge is made for the land, making deed, or other so-called expenses. Each applicant can receive a warranty deed for a plantation or a house or business lot as he or she may choose. The Plantations and lots to be deeded away will consist of only one-half of our property, the re-

maining one-half we shall hold for the Company's profit, to be sold in the future at enormously increased values.

Large and diversified ownership, by energetic and enterprising Americans, will make all of this property worth, in five years, twenty times what it is to-day—hence our offer. Such a field of wealth has never before been opened. It may mean a fortune to you; it certainly means happiness, comfort and a competence to those who accept our offer now.

\$200 TO \$1,000 PER ACRE can be made from Cuban land, raising Sugar, Tobacco, Coffee, Oranges, Cocoanuts, Pineapples, Bananas, Figs, Citron, and all early vegetables. Three crops per year. No frost, a beautiful, healthful climate under American system of government; a life on the richest and most fertile island in the world. **Forty acres will make you a fortune.** Five Acres a competence for life. We start you on the road to this.

PLANTATIONS SET OUT AND CULTIVATED.

The Company will set out and take care of Plantations for those who are not in a position to attend to it personally. After two years a 20-acre plantation will pay \$2,000 yearly, and after five years over \$4,000. Think of it!

CUBAN LAND & STEAMSHIP CO., DEPT. B.

Our offer is open to all adults, male or female. We want people with ambition and energy. Those who have something and want to see that something grow into a splendid and easy livelihood.

CONDITIONS. There are absolutely NO conditions that cannot be complied with. You are not required to move there, to improve in any way except at your own pleasure, though we prefer that you should.

EXCURSIONS will be run for the benefit of stockholders and land owners. These excursions will be either given in one of our own steamships, or one chartered for the purpose.

TO-DAY is the day to answer this advertisement to secure its full benefits. You have no time to lose. Send your name and address and we will forward particulars free. Send \$25 cents and we will send beautiful colored map of Cuba showing location of our property, and illustrated book on Cuba. It tells of Cuba's wonderful resources, climate, soil and profits to be made from raising Tobacco, Sugar, Coffee, Oranges, Lemons, Limes, Pineapples, Bananas, Cocoanuts, Citron, Cacao, and Early Vegetables. Address

32 BROADWAY, N. Y.

Paying Double Prices

for everything is not pleasant, is it? But that's what you are doing, if you don't buy here. Did you think it possible to buy a \$50.00 Bicycle for \$18.75? Catalogue No. 59 tells all about Bicycles, Sewing

Machines, Organs and Pianos. What do you think of a fine suit of clothing, made-to-your-measure, guaranteed to fit and express paid to your station for \$5.50? Catalogue No. 57 shows 32 samples of clothing and shows many bargains in Shoes, Hats and Furnishings. Lithographed Catalogue No. 47 shows Carpets, Rugs, Portieres and Lace Curtains, in hand-painted colors. We pay Freight, sew carpets free, and furnish lining without charge.

What do you think of a Solid Oak Dry-air Family Refrigerator for \$3.95? It is but one of over 8000 bargains contained in our General Catalogue of Furniture and Household Goods. We save you from 40 to 60 per cent, on everything. Why buy at retail when you know of us? Which catalogue do you want? Address this way,

JULIUS HINES & SON, Baltimore, Md. Dept. 312.

Boys & Girls

We are giving away watches, cameras, solid gold rings, sporting goods, musical instruments & many other valuable premiums to boys and girls for selling 18 packages of Royal English Ink Powder at 10c each. Every package makes 50¢ worth of fine ink. We ask no money—send your name and address, and we will forward you 18 packages with premium list and full instructions. When you sell the Ink Powder send the money to us and select your premium. This is an honest offer. We trust you. Don't lose this grand opportunity. Write for the outfit today. Address all orders to Imperial Ink Concern, 82 Adams St. Oak Park, Ill.

Dr. ISAAC THOMPSON'S EYE WATER

FITS A Great Remedy Discovered. Send for a FREE package & let it speak for itself. Postage 6c. DR. S. PERKEY, Chicago, Ills.

\$4.95 buys a Man's All Wool Suit

of Rich Blue Serge, warranted Best Fast Color, Guaranteed equal in quality, style and looks to others' best \$10 Suits. **THE MATERIAL** is Mail's Best All-wool Serge, famous everywhere for its perfect weave, soft feel and rich deep blue color. The cloth was woven by America's best woolen mill, from fine picked wool yarn, dyed by a new process and cannot fade. It is medium weight and suitable for year around wear; is firmly woven, will positively not fade or wear shiny, and will wear like leather. It's exactly the same cloth used in the serge suits that retail everywhere for \$10.00. Remember we will sell only 1800 suits at \$4.95—after they're gone the price will be \$9.00. Don't delay, but order today before they are all gone. **EXPERT SUIT TAILORS** will make the suit in the latest sack style to fit perfectly, line it with Holman's celebrated farmer satin, pipe it with Skinner's AAA satin, pad it extra well, use best grade of canvass, and sew every seam with pure silk and linen thread. **SEND NO MONEY** but send this adv. with your height, weight, chest, waist and crotch measure. We'll send the suit by express C. O. D. and allow you to examine and try it on before you pay one cent. If found exactly as represented, the greatest bargain on earth and worth double our price, then pay exp. agent \$4.95 and expressage and take the suit. Pay nothing if unsatisfactory. **WE SELL 1800 SUITS AT \$4.95** for advertising purposes. After they are gone the price goes back to \$9.00—no more at \$4.95 after 1800 are sold. Order quick or they'll be gone. Don't miss this wonder chance. THE LOUIS Z. VEHOON CO. 155 W. Jackson St. Chicago, Ill.



TEA SET FREE
56 PIECES.

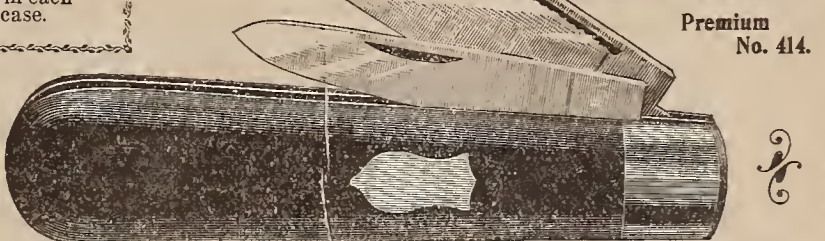
Full size for family use, beautifully decorated & most artistic design. A rare chance. You cannot get this handsome china tea set & one dozen silver plated tea spoons for selling our Pills. We mean what we say & will give this beautiful tea set absolutely free if you comply with the extraordinary offer we send to every person taking advantage of this advertisement. To quickly introduce our Vegetable Pills, a sure cure for constipation, indigestion & torpid liver, if you agree to sell only six boxes of Pills at 25 cts. a box write to-day and we send Pills by mail, when sold send us the money & we send you one dozen Silver plated tea spoons together with our offer of a 56 piece china tea set same day money is received. This is a liberal inducement to every lady in the land and all who received the spoons and tea set for selling our Pills are delighted. **AMERICAN MEDICINE COMPANY, Dept. 2, 30 WEST 13th St., NEW YORK CITY.**

This is one of the finest knives manufactured by the old reliable Humason & Beckley Cutlery Co. It sells in most hardware stores for \$1.00.

Description:

The cut shows the exact size and shape of the knife. It has two blades of razor-steel, hand-forged, oil-tempered, sharpened, and highly polished. It has genuine buffalo-horn handles, German silver bolster and shield, and brass linings. Being made of the best materials throughout and elegantly finished, it is a perfect knife. Satisfaction guaranteed.

Postage paid by us in each case.



FREE This fine Pocket-knife will be given as a premium for a club of FIVE yearly subscribers to Farm and Fireside. **FREE** We will send Farm and Fireside One Year and this Knife to any one for 80 Cents. Address **FARM AND FIRESIDE, Springfield, Ohio**



SMILES

WHEN YOUR HAIR IS THIN ON TOP

There are some awful sorrows
That cut you to the quick,
And they seldom venture singly,
But others follow thick;
Yet scarce another sorrow
Can make your courage drop
Like the cruel one of finding
Your
Hair
Is
Thin
On
Top!

You can wear a dingy collar,
Or coat that isn't whole,
And know they simply cover
A brave, determined soul;
But a thought to make you falter
Is the one you cannot stop,
You're getting old and seedy—
Your
Hair
Is
Thin
On
Top!

You say it may be wisdom,
And tell your grinning friends
How overstudy always
A look of ripeness lends;
And yet in tearful secret
You scout the flimsy prop,
And ruefully admit it,
Your
Hair
Is
Thin
On
Top!

You brush in vain to hide it,
And buy the latest dye,
And every sort of tonic
With patient hand you try;
But still the faithful mirror,
When an anxious face you mop,
Repeats, there is no denying,
Your
Hair
Is
Thin
On
Top!

Ah, me! no other sorrow
In anguish's bitter train
Is so inclined to mock you
With hopes and fancies vain,
As is the one of finding
A thing you cannot stop;
This growth of years upon you
When
Hair
Is
Thin
On
Top!

GETTING INSURED

OLD BOB conceived the idea of having his life insured.
"How much do you weigh?" asked the examining physician.
"I weighs 'bout fifteen pounds more den my wife does."
"Well, but how much does she weigh?"
"I'se dun forgot; but she's a whopper, lemme tell you."
"How tall are you?"
"Who—me?"
"Yes, you."
"Lemme see. Does yer know Abe Sevier whut worked fur ole man Plummer?"
"No."
"Well, I'se sorry, fur I ain't quite ez tall ez he is."
The doctor, after weighing old Bob and measuring his height, asked:
"How old are you?"
"Who—me?"
"Yes, of course, you. You are being examined."
"Dats a fack. Wall, lemme see. My birfday comes in July, an' now whut I wants to git at is how many Julys I ken recollect. Ain't dat de p'int?"
"Yes."
"Wall, lemme see. Blame ef I knows. Suppose we make it August 'stead of July?"
"What difference would that make?"
"Doan know, but it's jes ez easy."
"I'll put you down at fifty."
"Put who down at fifty?"
"You, of course. How old is your father?"
"Bout er bunnere an' ten."
"You don't tell me so?"
"Yes, I does."
"Is he in good health?"
"Ob, no, sah; dat ain't whar he is. He's in de grave."
"Thought you said he was 110?"
"He is. You didn't ax me how old he wuz when he died."
"Well, how old was he when he died?"
"Bout forty."

"Had he enjoyed good health?"
"Oh, yes, sab; de healthiest man yer eber seed."
"Did he have a lingering disease?"
"What sorte 'zease?"
"Was he sick very long?"
"Oh, no, sah. He drapped off mighty sudden."
"Heart disease?"
"No, sah."
"Did the doctors attend him?"
"No, sah."
"Well, what did they say was the matter with him?"

"Dey didn't say much o' nothin'. One o' 'em climbed up an' put his year agin de ole man an' said dat he wuz dead enough ter be cut down. Den de sheriff cut him down an' put him in er box. Doan' think dat he had heart 'zease, boss. Think dat he had some sorter trouble wid his naik."
"Look here, I don't believe that you want your life insured."
"I doan' b'lebe I does, sah, since yer's gunter pry inter a man's family history. Good-day, sah."

HOW SHE SAVED HIM

In the city of Denver lives a lady who is a professional nurse. Her forte is the care of patients with three special diseases, namely, small-pox, diphtheria and pneumonia; and of these she has never lost a patient. She is naturally very proud of this distinction and of the standing which it gives her with the physicians.
Not long ago a gentleman was placed in her care who had been suddenly and violently seized with pneumonia. When the hospital physician made his visit, about ten o'clock at night, he said, "Miss D., I am afraid you are about to lose your patient. He cannot live through the night."
An hour or two later, sure enough, the patient closed his mouth and refused the medicine. Miss D. insisted, and he shook his head, whispering, "No use." This alarmed his nurse, who stood over him and cried out:
"Here, sir! open your mouth and take this medicine! If you die I'll kill you!"
It is pleasant to be able to say that Miss D.'s "bull" set the patient into a paroxysm of laughing which was the means of his recovery.

A PIECE OF HIS MIND

Abraham Lincoln said a great many wise things, but perhaps he never gave better advice than at one time to Secretary Stanton. Mr. Stanton, it seems, was greatly vexed because an army officer had refused to understand an order, or, at all events, had not obeyed.
"I believe I'll sit down," said Stanton, "and give that man a piece of my mind."
"Do so," said Lincoln; "write it now, while you have it on your mind. Make it sharp; cut him all up."
Stanton did not need another invitation. It was a bone-crusher that he read to the president. "That's right," said Abe; "that's a good one."
"Whom can I send it by?" mused the secretary.
"Send it!" replied Lincoln. "Send it! Why, don't send it at all. Tear it up. You have freed your mind on the subject, and that is all that is necessary. Tear it up. You never want to send such letters; I never do!"—Christian Work.

SIMPLE ADDITION

A teacher at Garden City said to her primary class the other day: "If your father gave your mother \$7 to-day and \$8 to-morrow, what would she have?"
And the small boy over in the corner replied, "Sbe would have a fit."—Kansas City Journal.

A NEW DEPARTURE

Margie's father was accustomed to wear a tall silk hat. One afternoon, however, he came home with a soft felt one on. "Oh, mama," cried Margie, as she turned from the window, "here comes papa with a soft-shelled hat on."—Judge.

LITTLE BITS

"I know," pleaded the little bride, humbly, "that I make a good many grammatical errors."
"They are nothing," said the young husband, "to those mother used to make."—Indianapolis Journal.
One question which a woman desiring to become a trained nurse must answer is, "What are your physical disabilities?" In reply to this a girl recently wrote, "I have a cow-lick and a corn."—New York Evening Sun.
"That's a fine, solid baby of yours, Middleton," said a friend who was admiring the first baby.
"Do you think he's solid?" asked Middleton, rather disconsolately. "It seems to me as if he were all holler."—Stray Stories.
Teacher (to new scholar)—"Now, Mary, I'll give you a sum. Supposing that your father owed the butcher \$13.70, \$11.13 to the baker, \$27.03 to the coal merchant, \$15.10 to the landlord—"
Mary (confidently)—"We should move."—Boston Globe.

The Great Huxley

What Huxley, the Great English Scientist, Considered the Best Start in Life

The great English scientist, Huxley, said the best start in life is a sound stomach. Weak stomachs fail to digest food properly because they lack the proper quantity of digestive acids (lactic and hydrochloric) and peptogenic products; the most sensible remedy in all cases of indigestion is to take after each meal one or two of Stuart's Dyspepsia Tablets because they supply in a pleasant, harmless form all the elements that weak stomachs lack.
The regular use of Stuart's Dyspepsia Tablets will cure every form of stomach trouble except cancer of the stomach.
They increase flesh, insure pure blood, strong nerves, a bright eye and clear complexion, because all these result only from wholesome food well digested.
Nearly all druggists sell Stuart's Dyspepsia Tablets at 50 cents full-sized package.
Send for Free book on Stomach Troubles to F. A. Stuart Co., Marshall, Mich.

Do You Own Sheep?

Let us send you a little book FREE showing how to protect your Sheep from Dogs by using our HERO SHEEP COLLAR. The cost is trifling, and it always does the work. Your name on a postal card will get the book.
WELLINGTON MFG. CO., Indianapolis, Ind.

RIFE HYDRAULIC ENGINE

Will pump more water than any hydraulic ram.
Pumps 30 feet high for each foot of fall. Minimum fall, 13 1/2 inches. Maximum elevation, 575 feet.
WON'T WATER LOG. NEVER STOPS.
POWER SPECIALTY CO. 126 Liberty St., New York.

DO YOU WANT TO BUY or exchange your farm?

We are selling property everywhere. Give full description.
WHAT DO YOU WANT? **MANHATTAN REALTY CO.,** Temple Court, N. Y. City.

OPIUM and Liquor Habit cured in 10 to 20 days.

No pay till cured. Dr. J. L. Stephens, Dept. L, Lebanon, Ohio.

BUY YOUR FERTILIZERS DIRECT!

Save Money! No Salesman's Expenses; No Middleman's Profit. Our entire product goes from Factory to Farm. Write for free samples and book.
WALKER, STRATMAN & CO., Pittsburg, Pa.

Dr. Swift's

RHEUMATIC AND GOUT CURE

\$1.00 a bottle,
3 bottles \$2.50 prepaid with Guarantee.

Only Rheumatic Cure in the World Guaranteed to Cure or Money Refunded.

Free Distribution of 100,000 Bottles Extended to June and July

DEMAND GREATEST EVER KNOWN IN MEDICAL HISTORY

10,000 Agents Wanted to Introduce the Great Remedy in New Territory—Enormous Profits Guaranteed to Workers—\$182.00 a Month for Selling Four Sufferers a Day

The free distribution of 100,000 bottles of Dr. Swift's Rheumatic and Gout Cure has developed such enormous proportions that it has been utterly impossible to conduct the grand gift enterprise within the time limit, and therefore Dr. Swift has decided to extend it to June and July, so all will have an opportunity to test the merits of his famous preparation.
He also begs to say that this is positively the last extension that can be made, and those who do not avail themselves of the opportunity will not have another chance without paying the usual retail price.
If you suffer from rheumatism or gout in any form, including sciatica, lumbago, neuralgia, pains in back of loins, stiffness, pains or aches in the muscles, inflammatory or muscular rheumatism, send for a free bottle of Dr. Swift's Rheumatic and Gout Cure, inclosing 10 cents to prepay postage and packing, and you will be supplied promptly, if applied for in time.
Attention is also called to the fact that this is the only rheumatic cure in the world that is guaranteed to cure or money refunded; and further to the fact that in case it is impossible to cure within 30 days, the guaranteed time for all cases, the Doctor agrees to furnish Free Monthly Medical Treatments, once the sufferer has purchased the 3 regular bottles at \$2.50, the only stipulation being that 50-cents a month be sent for prepaying transportation. This means that you will be cured for \$2.50, no matter how many months may be required. People who have been imposed on by irresponsible manufacturers who send out weak medicine to get as much money as possible,

\$500.00 Reward for a Burglar

Tramp, or Sneak Thief, who will gain entrance through a window closed with the Duplex Fastener, without shattering the shutters and breaking the window. So simple a child may attach it. No screws, nails or bolts. Endorsed by police, prominent business men and housekeepers.
Sample set for one pair shutters and window sent prepaid, with instructions, for 25 cents. Set of six, enough for an ordinary house, \$1. Money promptly refunded if fastener does not prove our claim. Descriptive circular FREE on request.
They sell on sight. Live Agents make big pay. Exclusive territory to right parties.
DUPLEX FASTENER CO.
Room C, Pike Bldg. CINCINNATI, O.

FAT

How to Reduce it
Mrs. L. Lanier, Martin, Tenn., writes:
"I reduced my weight 2 lbs. in 15 days without any unpleasant effects whatever." Purely vegetable, and harmless as water. Any one can make it at home at little expense. No starving. No sickness. We will mail a box of it and full particulars in a plain sealed package for 4 cents for postage, etc.
HALL CHEMICAL CO. B Box St. Louis, Mo.

"POSITIVE" CORN CURE

Absolutely Painless. No Cutting Necessary.
NO GREASE NO ACID
Something entirely new. Your money back if not satisfied.
BY MAIL, 25 CENTS
Medicated Rubber Co., Riblet Blk., Cleveland, O.

RUPTURE

Sure Cure at home; at a small cost. No operation, pain, danger or detention from work. No return of Rupture or further use for Trusses. A complete, radical cure to all (old or young). Easy to use; thousands cured; book free (sealed).
DR. W. S. RICE, Box F, Adams, New York.

CANVASSERS COIN CASH

in working for me. Ladies and gentlemen, this is your great opportunity. OUTFIT FREE. Are you ready? Workers write at once to E. HANNAFORD, Springfield, Ohio.

MONEY MADE EASY

By disposing of sizes 1, 2, 5-10 for good money Send 6c. in stamps for samples and particulars.
J. A. McNEIL, Dept. 29, P. O. Box 2016, New York.

\$240 MONTHLY TO AGENTS

(cannot fail), plated, brilliant Gaslight Burners. Fits all Kerosene Lamps, gives beautiful Gaslight. No chimney or smoke. Cheapest light known. Sample Free. Enterprise Mfg. Co., 12, Cincinnati, O.

BED-WETTING CURED.

Sample FREE. Dr. F. E. May, Bloomington, Ill.

AGENTS

TO SELL WASHING MACHINES AND OTHER NOVELTIES. SOMETHING NEW. EXCLUSIVE TERRITORY. CRISTAL WASHING MACHINE CO., COLUMBUS, OHIO

MISCELLANY

ALGERIA is the only country in the world where the horses outnumber the human beings.
A BERLIN paper asserts that of twenty-seven royal families in Europe, two thirds are of German origin.

AMONG every one thousand bachelors there are thirty-eight criminals; among married men the ratio is only eighteen per thousand.
THE muscles—of which the tongue monopolizes eleven—and bones of the human structure in combination are capable of more than 1,200 different motions.

SINCE the calendar was reformed by Pope Gregory no century has begun on a Wednesday, a Friday or a Sunday, and the same order of days is repeated every twenty years.

SAYS Mr. G. W. LORD, writing from Silver Lake, Maine: "My doctor recommended Jayne's Expectoant, and I am sure that it has saved my life in one or two instances."

DURING the last thirty years the coal production of the United States has increased fivefold, and the amount of coal exported has increased sixteenfold—from one fourth of a million tons to four million tons.

IN THE United States in 1870 the total number of telegraph messages sent was 9,157,644. Last year the number of messages sent was approximately 90,000,000, a larger number than was furnished by any other country in the world.

SOME of the Greek historians ascribe the invention of the trumpet to the Tyrrhenians, and others to the Egyptians. The trumpet was in use in the time of Homer. First torches, and then shells of fish were the signals in primitive wars.

IT IS calculated that ice three inches thick will sustain a hundred pounds to the square foot; four inches thick will sustain a column of infantry. Ten inches of ice will hold up any weight that can be put upon it, as far as people are concerned.

THE oldest university in the world is at Peking. It is called the "School for the Sons of the Empire." Its antiquity is very great, and a granite register consisting of stone columns, 320 in number, contains the names of 6,000 graduates.

STATISTICS of two years' campaign of Spanish soldiers in Cuba show that out of every 1,000 men died as the result of wounds received in battle, 267 died of yellow fever and other diseases, and 143 were sent home because unfit for duty through illness.

THE estimated gold production of the Australian colonies in 1898 was as follows: Western Australia, 1,049,000 ounces; Queensland, \$18,000; Victoria, 845,000; New South Wales, 342,000. The total, 3,164,000 ounces, exceeds the production of 1897 by 565,000 ounces.

THE world's gold production for 1898 is estimated at between \$90,000,000 and \$300,000,000. Of this total Africa produced \$73,476,600, the United States \$64,300,000, Australasia \$61,480,000, Russia \$25,136,994, Canada \$14,190,000, no other country reaching \$8,000,000.

PARIS contains more trees than any city in the world. These trees are principally of three kinds—the chestnut and acacia, such as line the Champs Elysees, and the lime tree, which grows in such abundance in the Bois de Boulogne and on certain of the outer boulevards.

THE Arabic alphabet has twenty-nine letters, each of which is written differently, according as it stands alone or in combination with other letters, at the beginning, middle or end of a word. To learn the alphabet, therefore, means to memorize one hundred and sixteen different signs.

FRANCE leads both Great Britain and the United States in the number of books published. Last year the number issued in France was 14,781, an increase of nearly a thousand over 1897. The United States is credited with 4,886 and Great Britain 7,516—in both countries a slight falling off from the year previous.

THE teaching of experience indicates that accidents are far more likely to occur to the right arm and leg than to the left. Further evidence of this fact is supplied by the makers of artificial limbs; they dispose of many more appendages to the right side of the body than to the other. Statistics show that in fifty-four cases out of a hundred the left leg is stronger than the right.

HUMAN beings are of all sizes, but the tall man is less common than the short; only one man in every 208 exceeds the height of six feet. For every foot in stature a man should weigh from twenty-six to twenty-eight pounds. An average-size man weighs 140 pounds, a woman, 125 pounds. Curiously enough, the mean height and weight of lunatics are below those of sane people. Another unexpected thing in this respect is that a negro's skeleton weighs more than that of a white man.

A TRADER'S PROBLEM

A farmer traded five mules for nine horses, seven horses for thirteen cows, and eleven cows for ninety-eight sheep. How many sheep could he have gotten for fifteen mules?
K. W. BABER.

"STRAID OR SWIPED"

The following notice is said to be tacked to a section corner near Prosser:
"Straid or Swiped—a young hog shote with the left ear cropt and tale gone. Also black spot on the left-hand hip and hole in other care. Said hog shote disappeared from premises of undercoined

owner at nite under sircumstansis pointing to him bein stole; said hog shote being a pet and not apt to goe off of his own accord. Said hog shote answers to the name of Nelle and he will eate from the hande and can stand on his hind legs like a dog, and is of affeckshumate natur. Any one returning said hog shote or letting me know where he is at will confer a benefeit on an invalid lady whose pet said hog shote was."—Washington Agriculturist.

MICE IN PIANOS

It is well known to piano-tuners that mice, if they have not really an ear for music, often have a decided liking for the vibration of the piano while it is being played on. It may be by accident that a mouse strays into a piano first, but after it gets the better of its fear when the piano is played it will return again. The loudest passages, which shake the entire instrument, have no terrors for it once it becomes accustomed to the playing.

"It is not impossible that mice may like the music itself," said a member of a piano firm. "Some dogs howl when they hear music, and other animals are influenced by it. I believe that, as with human beings, there are some animals which are indifferent to music, but most of them are more or less affected by it. In the case of mice inhabiting pianos, they may like the music, but I am inclined to think that it is the vibration which pleases them. When the trolley-cars were run first dogs liked to sit on the rails, apparently enjoying the vibration, but after a number were run over they became wiser. In some cases mice may make their homes in a piano because they think a piano a good hiding-place, but I believe in most cases it is because they like the music or the vibration. This idea is borne out by the fact that mice have hardly ever been known to make their homes in pianos which are never used."

ORIGIN OF THE DOLLAR-SIGN

It is remarkable that a symbol in such common use as the familiar dollar-sign should be shrouded in so much mystery as to its origin. Various theories, to the number of eight or nine, have been offered in explanation, but no one of them has yet been proved with sufficient completeness to win general acceptance. I will run over in outline some of the most common of these explanations, and then set forth my own theory, which, unless contradicted by some newly discovered facts, ought to settle forever this interesting and much-disputed question.

- 1. That it is a combination of the letters U and S, the initials of United States.
2. That it is a modification of the figure 8, the dollar being formerly called a piece of eight, and designated by the symbol \$.

- 3. That it is derived from a representation of the Pillars of Hercules, connected by a scroll. The dollars containing these were called "pillar" dollars.
4. That it is a combination of H S, the mark of the Roman money unit.
5. That it is a combination of P and S, from the Spanish peso sura, signifying hard dollar.

To this list of theories I now add one more; namely, that the symbol, in almost its present form, was invented and published in 1797 by the Rev. Chauncey Lee, of Rutland, Vt., and that it was part of a general system invented by him for designating mills, cents, dimes, dollars and eagles.

In his system one stroke designated a mill, two strokes a cent, three strokes a dime, four strokes a dollar, while an eagle was designated by the letter E.—The Independent.

INSECTS DRUNKARDS

Dr. James Weir, Jr., in the course of his entomological studies, has come across the strange fact that some insects are just as inveterate drunkards as any human being can be. Many plants and shrubs secrete pollen and nectar that are intoxicating, and the blossoms of such plants are especially sought out by certain insects, who thoroughly enjoy a debauch on these natural stimulants. Some flowers are specially affected by beetles for these indulgences, but the flower which contributes more than any other to the depravity of thirsty insects is an autumn annual which blooms luxuriantly in Kentucky from the middle of September to late in November, unless cut down by severe frosts. Dr. Weir tells how his attention was first drawn to the demoralizing effects of this flower. In the autumn of last year he was observing the eagerness with which a large number of bumblebees, small beetles, butterflies, and a host of flies of all sorts were seeking the blossoms, when he noticed a bumblebee suddenly fall to the ground from an open flower, and lie supine, feebly moving its legs in an aimless manner. Taking it up he saw no sign of injury, but concluded that it must have been attacked by one of its own species. But presently another bee and then another succumbed to the mysterious illness, and looking on the ground, Dr. Weir saw that there had been a perfect rain of insects of all descriptions, all of which were in a comparatively impotent condition. He found that the insects were simply intoxicated. Presently some of them would recover, and they would again seek the seductive blossoms. He took one bee to his laboratory for dissection and microscopic investigation. The insect was so drunk that it could hardly keep on its legs; yet when a bosmos blossom was brought within two inches of its head, the bee thrust out its proboscis and staggered toward it. It immediately began to suck the nectar, and in a few moments tumble over, senseless and absolutely incapable. —Los Angeles Times.



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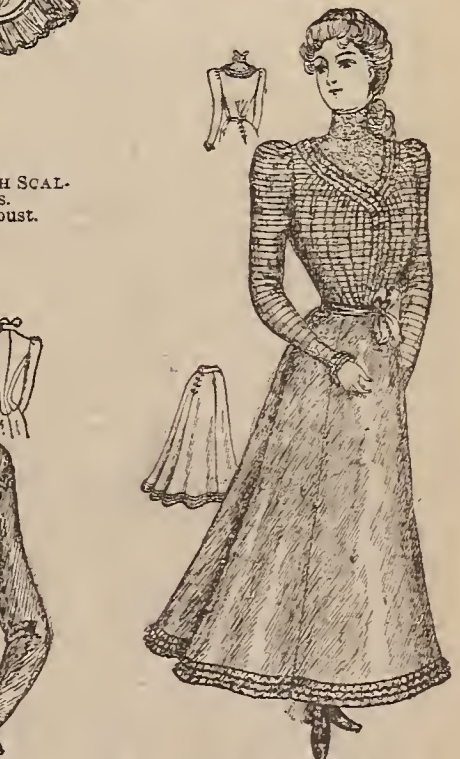
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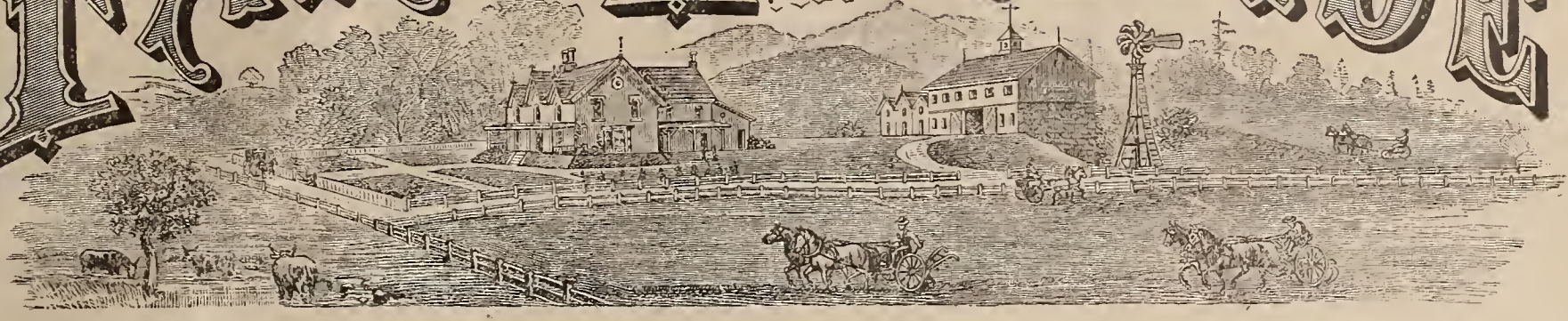
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VOL. XXII. NO. 17

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CHINESE AGRICULTURE III.—IRRIGATION

BY WILLIAM N. BREWSTER

IN America irrigation is in its infancy; in China it is in its dotage. Probably the majority of the people of the United States never saw an irrigated field larger than a domestic garden. In China every part of the country that can be watered by the crude methods available is artificially supplied with water. So thoroughly is the value of irrigation for agriculture understood by the Chinese that land is multiplied in value by from two to five by the simple fact that it can be irrigated when so desired.

Probably one reason why the Mongolians appreciate the value of irrigated lands is the fact that their chief cereal is rice; and rice, or "paddy" fields as they are commonly called, must be covered with from one to three inches of water from planting-time until harvest. Evaporation in these semi-tropical countries is very rapid, and the water must be supplied regularly and in large quantities.

But all the other crops are more or less irrigated wherever possible. Wheat is sown in rows, and an irrigated ditch six inches deep runs the length of the field every three or four feet. Sweet potatoes, beans, peanuts, sugar-cane, tobacco, and that arch-destroyer of the Chinese nation, the poppy, are all cultivated in the same way.

The methods by which these great stretches of country are covered with water are, in general, the same that are being followed in the arid West of America. They have their aqueducts, canals, pools, wells, pumps. But instead of great works of engineering and skilfully made machinery for lifting the water by steam or by wind power they have comparatively small plants, canals and pools, with clumsy pumps worked by human strength, shallow wells and laborious processes of lifting the water. In irrigation, as in everything else, the Chinese seem to have early learned its value and developed it practically to a certain degree of efficiency and then stopped. They have made no improvements in this line for a thousand years,

just as they have stood still in every other art of civilization.

Wherever possible water running down hill is utilized and spread out upon the fields. The hillsides, and even the mountains, are terraced, and the little streams running down their sides are utilized from their very source. This terracing of all sloping ground is one of the features of Chinese agriculture

from eight to sixteen feet long and six to ten inches wide. The pump has a bottom board, but no lid. It is placed in a stream, canal or pond, leaning upon the bank at an angle of about forty-five degrees. It is worked by foot-power—from one to four men or women standing at the top on the windlass, leaning upon a horizontal bar and stepping from one round spoke to the

place, and their chief thought is to "make hay while the sun shines"—get rich as quickly as possible before another one is appointed. As to the people organizing companies to carry out such works, they are too suspicious of each other and know each other too well to unite to build irrigation plants upon a large scale. However, they do unite upon a comparatively small scale. The water rights are very carefully stated in the deeds of land, and they take their turn in using water from small supplies like wells and ditches. This is especially true in times of drought. However, when the supply becomes insufficient for all, it is very frequently monopolized by the most powerful family, clan or village, and the weaker driven off. This is a fruitful source of village fights, often ending in bloodshed.

The old-fashioned well-sweep is used where there are no streams and where water can be reached at twenty feet or less. Three persons drawing water from a well for irrigation, one bucketful at a time, is a sad sight to the foreigner. But to the Chinaman it is only sad when he cannot get the water even by this amount of labor. These shallow wells soon go dry in a drought. Then the people often sleep beside the well, arising every two or three hours to draw the water that has accumulated. "Why not dig deeper?" The sweep will not work well over twenty feet, and the Chinese know nothing about suction-pumps. Nor do they know how to sink a well into the sand. When a bed of sand is reached they stop. Even so simple a thing as a wooden casing they have not thought of. I have priced farm lands three hundred yards apart; one price at \$20 (gold) an acre, the other at \$200, the only essential difference being that the first was say thirty-five feet to the water and the second fifteen or twenty feet. That additional lift of fifteen feet made the difference in price. Some time American wind-mill pumps will change all that; and it may not be very long in the future, either.

But when every other method fails, these patient toilers will carry water all day long and a good part of the night half a mile or more if necessary to save a part of their precious crop. It means starvation if it is lost.



LIFTING WATER SHORT DISTANCES

that strikes the traveler as most curious. Every field is level, no matter how steep the slope. This is necessary in order to hold the water; and even where the ground is not irrigated the fields are all made level artificially if not so naturally. This is one of the many evidences of the skill of the Chinese farmer. Every field looks like a garden.

After getting down into the valley the stream is larger and it is utilized upon a correspondingly larger scale. A crude dam is thrown across it, and a portion of the water is diverted into a ditch from one to four feet wide and half as deep, and the fields below upon that side of the stream are irrigated from it. A little distance below another partial dam will divert water into a similar ditch upon the opposite side. The water thus diverted to the fields runs over them and off into the stream again, except what is lost by evaporation. This process is continued as long as possible; but finally the stream becomes lower than the banks, and artificial methods of lifting the water must be resorted to.

The treadmill pump is the most generally used machine, and a very efficient one it is, though it cannot be classed among the labor-saving machines of the world. It is an endless chain of wooden links, each link having a four-cornered disk in the middle that fits close to the sides of the long box-like pump, which is

other. Water is raised rapidly and in large quantities by this process, but it can only be lifted from six to ten feet at a time. It is not uncommon to see two working lifting the same water in sections. This requires at least eight persons, and the expense would seem prohibitive in any country except China. A network of canals spreads over the level plains of China everywhere, and in south China, at least, this treadmill pump is used almost exclusively to lift the water from them to the fields along the low bank. But these are the favored regions where land brings the highest prices, and water is considered to be easily obtained and abundant. For short lifts of from two to five feet they commonly use a bucket swung by two persons with ropes, as shown in the illustration.

Small pools for catching rain-water are dug in the regions away from the streams and canals. But these are seldom more than a fourth of an acre in size, and oftener less than more. In many places it would be easy to throw a dam across the narrow pass of a mountain stream and make a lake that would furnish abundant water for large tracts of land in the valley below without labor and with certainty of supply. But the Chinese government does not consider such things as part of its business. The magistrates have very short terms in a



THE TREADMILL PUMP



CARRYING WATER FOR IRRIGATION

FARM AND FIRESIDE

PUBLISHED BY

THE CROWELL & KIRKPATRICK CO.

147 Nassau Street,
New York City

OFFICES:

Springfield, Ohio
204 Dearborn Street,
Chicago, Illinois

Subscriptions and all business letters may be addressed to "FARM AND FIRESIDE," at either one of the above-mentioned offices; letters for the Editor should be marked EDITOR.

TERMS OF SUBSCRIPTION

One Year	- (24 Numbers)	- 50 Cents
Six Months	- (12 Numbers)	- 30 Cents

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There is not much occasion for alarm on account of some of the big combinations that have been formed recently in this country, except on the part of those who have invested money in them. The active period of formation of big speculative combinations is likely to be followed soon by an active period of collapse. Combinations that arbitrarily advance the prices of their products, with the view of making enormous profits, at once get the ill will of their customers and invite competition strong enough to soon pull prices down to or below a level of normal profits. Combinations that increase the profits of the business by savings in production and distribution, and not by arbitrarily advancing prices, rest on a solid basis, and will endure because they will be supported by the people.

Testifying before the Industrial Commission at Washington, General John McNulta, receiver of the whisky trust, explained its collapse by the fact that the distillers who went into the combination sold their trust certificates and built new distilleries, it being very profitable to do this, because the trust had put up the price of its products. So many new distilleries were built that the trust could not buy them all up.

"When they tried to control the market," said Mr. McNulta, "they tried to hold up prices where they ought not to be, and that brought about the competition. In the future they will seek to control the market by cheapening the cost of production. That is the only way they can hold the market, in my opinion. Had the trust cheapened the product it could have controlled the market."

Writing on the growth of monopoly in English industry, H. W. Macrosty, in the March "Contemporary Review," says:

"Single amalgamations, while not entirely excluding competition, control the screw, cotton, thread, salt, alkali and india-rubber tire industries. In other cases a formal agreement of masters fixes prices; thus, in the hollow-ware trade (metal utensils) prices are arranged by an informal ring of a dozen Birmingham firms. Similarly there is no open market in antimony, nickel, mercury, lead pipes, fish supply and petroleum. Steel

and iron rails are controlled by an English rail ring, which so manages matters that it is undersold by American, Belgian and German competitors. All the largest firms in the newspaper-making industry have just consolidated their interests into one large combination. In the engineering trades twenty-four firms have a subscribed capital of £14,245,000. In 1897 Armstrong & Co. absorbed Whitworth & Co., raising their capital to £4,210,000 in the process. Vickers & Co., the armor-plate manufacturers, are another example of a very large amalgamation. In the spring of 1897 they bought up the Naval Construction and Armament Company, and later they acquired the Maxim-Nordenfeldt Guns and Ammunition Company. Now they boast of being the only firm capable of turning out a battle-ship complete in every respect. The most noteworthy examples of combination, however, are to be found in the Birmingham staple trades and in the textile industries.

"We thus see in British industry a steady movement toward combination and monopoly, a movement which is the natural outcome of competition, and therefore not capable of being prevented or undone by law."

The following cablegram, from General Otis, was received in Washington on Dewey day: "MacArthur strongly recommends Colonel Funston's appointment as brigadier-general for signal skill and gallantry crossing Rio Grande river, and most gallant services since commencement of war. I urge appointment. Funston able as leader of men, and has earned recognition."

And forthwith the President made Colonel Funston, of the Twentieth Kansas, a brigadier-general of United States Volunteers.

In the Philippine campaign north of Manila the Twentieth Kansas has been with the vanguard of the firing-lines, repeatedly covering itself with glory; and Colonel Fred Funston's brilliant successes in carrying out original, bold and useful plans have made him pre-eminent among genuine heroes. Thrice, with daring volunteers from his regiment, he crossed rivers in the face of the insurgents' fire, leading the advance of the American army, the crossing of the Rio Grande being the crowning achievement.

"From the commencement of the war" does not cover the record of General Funston's gallant military services. Before the Spanish-American war began he had already served one and one half years with the Cuban insurgents, having enlisted as a private, and came out (a scarred veteran of twenty-three battles) as a lieutenant-colonel and chief of artillery in Garcia's division of the Cuban army—the highest rank attained by an American. Cascaro, Desmayo, Guimaro and Las Tunas, in Cuba, will be remembered with Caloocan, Marilao, Malolos and Calumpit, in Luzon.

There are volumes of notable experience and daring adventure in his earlier life of farmer, student, teacher, railroad conductor, botanical collector and explorer. As a reward for a successful trip through Montana and Dakota, collecting botanical specimens for a government, he was appointed one of the party sent out to explore Death Valley. The expedition was successful, but he narrowly escaped becoming a permanent resident of that terrible desert. In the government service he made two famous trips to Alaska. Over snow, ice and open water: over Chilkoot, on to the Arctic ocean, and down the Yukon he traveled, in all 3,500 miles—in distance, hardship, danger and successful work excelling all other Alaskan explorers.

Of this true American hero his manhood belongs to his country, his youth to Kansas, and his boyhood to Ohio, where he was born, at New Carlisle, Clark county, in 1863.

In the "North American Review" for May General Miles, writing on "The War With Spain," says:

"On March 10th Congress appropriated fifty millions of dollars for national defense. With this large amount the executive department was authorized to make prepara-

tions for the impending war. The navy department succeeded in securing large quantities of munitions of war, including a considerable number of rapid-fire guns and ammunition, some third and fourth class vessels and quite a number of others that were used as an auxiliary force. Yet such priceless jewels are the modern appliances of war that, even with the large amount of gold available, our government was unable to purchase a single battle-ship, a first-class cruiser or a modern high-power gun of the greatest destructive power. It requires years to build these great engines of war, and they cannot be obtained in an emergency.

"On the twenty-fifth of April Congress declared war, making the declaration that war had existed from the twenty-first of April. Congress had been much more generous in its appropriations for the navy than for the army, and much progress had already been made in the construction of battle-ships and cruisers. At the time of the breaking out of the war, indeed, the navy was in fairly effective condition, except for a shortage in ammunition, and it proved to be in every way superior to the Spanish navy. The magnificent results of the operations and the splendid record of the navy during the war were eminently satisfactory.

"Although for many years Congress had been urged to make appropriations for the adequate protection of our sea-coasts, it had been so tardy in doing so that when the war broke out the condition of our coast defenses was far from satisfactory. A very few guns of high power had been placed in position. It is true that much work was in progress,



BRIGADIER-GENERAL FREDERICK FUNSTON

but it takes years to construct guns and to build emplacements for them, so that at that time it still required many months to accomplish the necessary results. Suddenly attacked by a first-class naval power, most of our seaports would have been practically defenseless.

"The army of twenty-five thousand men was doing duty in various parts of the country, where for many years it had paved the way for the advance of civilization, and had afforded constant protection to the citizens on the frontier. It was, as far as practicable, well trained and in excellent condition. It was fairly well armed and equipped, and it was ready for any emergency, its officers and men having been hardened by service and training in the West. It was, as far as intelligence, physical excellence, discipline and devotion to duty are concerned, unexcelled by any military body of equal numbers in the world. Such a force, however, was not even sufficient to have properly guarded our sea-coasts in the event of a war with a strong naval power.

"The militia, composed of the national guards of the several states, was, as a rule, inefficient, and as a body could practically be disregarded. Its arms and equipment were obsolete and unfit for use by troops fighting an army properly organized and equipped. Never in the history of the country was the necessity so obvious to the people for legislation for the reorganization of the regular army, as well as of the national guard. Small arms using smokeless powder had been manufactured for the use

of the regular troops, but there was not a sufficient reserve supply of these arms to equip even the small army called into service at the time of its mobilization. Our field-artillery, our siege-guns and all our heavier guns were constructed for and used black powder. This, in time of action, proved to be a great disadvantage; and, in fact, the regiments of volunteers which were present with our army in Cuba had to be withdrawn from the firing-line on account of the obsolete firearms with which they were armed, while the field-artillery was subject to the same disadvantage. Had one field-artillery been of modern type, using smokeless powder, there is no question that its proper employment would have produced much more effective results. The same disadvantage was experienced by the navy during its attack on the fortifications at San Juan, Porto Rico, when the smoke from the guns to a great extent prevented efficient firing.

"It is safe to say that with an army of seventy-five thousand men properly equipped at the time of the declaration of war, peace could have been secured without requiring a single volunteer to leave the country, and thus the necessity of the enormous volunteer army, and the expense and inconvenience incident to its organization and maintenance, could have been avoided. In fact, only fifty-two thousand men were landed on Spanish soil before the peace protocol was signed."

IN AN address at Philadelphia last month Wu Ting Fang, minister from China to the United States, presented the Chinese side of the Eastern question. Referring to the great nation upon the position and movements of which this great question hinges, he said:

"It is madness to abate one particle of the issue, and declare that something ought to be conceded for the cause of peace, to pretend, as do some Englishmen already weary of the strain, that Russia if given Northern China, or Constantinople, or a port on the Persian gulf, will be content. She is not striving for portions, but for the whole of Asia; when she has gained this she knows, and we must eventually agree, that nothing human can resist her. Fortunately for the cause of freedom, America has just discovered that she is necessarily involved in the affairs of Eastern Asia; that she has a stake in common there with others whom she can already undersell in distant as well as in domestic markets; that her business compels her to join in the work of reducing barbarians to order and educating them; finally, and perhaps most fortunately of all for the present crisis, that there is no real antagonism between the mother-country and her once rebellious colony, but that friendly co-operation has only to be proffered to be eagerly accepted. When we realize that the menace of Russian aggression affects not only the political supremacy of Great Britain in Asia, but the free exercise of those high aspirations which are vital to the existence of every regenerate people, we will cease to imagine vain fears of imperialism, and assemble the utmost strength of the enlightened West against that portentous imperialism embodied in the spirit of a devouring and devastating East. Finally, when we appreciate the fact that to secure China is the sine qua non of Russian designs for the establishment of a universal empire, that without her wealth and willing hands the Muscovite can never become master of a double continent, and so of the world, we will listen before it is too late to the Macedonian cry of that misgoverned nation to go over and help them."

BEFORE parting with Admiral Dewey," says Major Younghusband of the British army, "I asked him what was his candid opinion, taken on the broadest possible grounds, as to the wisdom or otherwise of a permanent occupation of the Philippines by the Americans. After thinking carefully for a minute, he replied, 'I do honestly think that the retention of these islands would be the wisest course to pursue. American trade is, next to the British, the most important in China and the far East, and to foster, protect and increase that trade we want that local influence in these waters which actual occupation can alone insure.'"

IN THE month of March the ordinary receipts of the government from all sources—customs, internal and miscellaneous—were over \$46,000,000, a larger amount than in any previous March in the past ten years, the nearest being \$44,000,000 in March, 1893. The tariff law is doing what was expected of it by its framers.



ABOUT RURAL AFFAIRS

Corn Versus Oats It is an old rule that tells us to sow oats early. The rule seems to be a safe one, too, as oats sown late seldom amount to much. A neighbor just told me that he was not sowing much oats this year. We have had only a few days in April that the land was in condition for working, and as May had now come he thought it too late to sow oats. "What are you going to sow?" I asked him. He replied, "I am going to plant corn on my oat land." "But if the land is too poor to raise good corn, what then?" I asked. The answer he made to that might be used as a text for a sermon in good cultivation. He said, "On any land that will raise a fair crop of oats I can raise a good crop of corn. I cannot coax the oats. It is different with the corn. After the planting I can keep the cultivator going and make the corn grow right along. With the oats I am done after the planting. The soil may crust over and get quite hard, and I cannot help myself. It is not practicable to loosen up the crust again. So altogether I rather take my chances on the corn than on the oats. And as for land that is too poor to raise a fair crop of corn, it is also too poor to raise a good crop of oats, and we better give it a rest or try to improve it by putting it in clover, etc.

Mutual Life Insurance We do not always practise what we preach. I have frequently warned against overconfidence in the so-called mutual benefit organizations. These institutions are founded on a wrong principle, and therefore they cannot last. They have no reserve fund and collect the money needed to pay the amounts as they come due at the death of members by assessments. While the organization is young and deaths only of rather rare occurrence everything is all right. But after a few years the number of deaths, and consequently of assessments, increases at a rapid rate, and finally the calls for assessments come so often that the remaining members get sick of it and withdraw. That, of course, means the final dissolution of the organization. I know of only one of these associations that has stood the test of twenty years. Yet, knowing all these facts, I still belong to one of them. It is one of those fraternal orders, and the fraternal features of it are just what I like and what keeps me a member. The members meet two or three times a month, and thus a feeling of friendliness and fraternity is maintained. I believe that it does farmers and others all sorts of good if they come together once in awhile to talk over matters, exchange views and experiences, etc. I am interested in this insurance plan only to the extent of \$1,000, and the monthly expense is a trifle over \$2. It is worth all it costs, simply for the opportunity it affords us to have an occasional meeting and neighborly chat. The scheme, of course, is not without value as a means of temporary life insurance. We insure against fire, and hope and expect that we will not see the need of calling on the company for payment of the insurance money. Why not insure the family against need in case of an untimely death?

Building and Loan Associations I am also a member of one building and loan association, and I have belonged to several others of them. These institutions can be, and in many instances are, decidedly meritorious. If they are properly, that is, honestly and economically, managed they will help people of limited income to save some money in time. Unfortunately, the primary object of some of these institutions seems to be to provide fat places for a set of officers. Their agents go out and tell the people those wonderful stories about the ease and rapidity with which the stockholders can accumulate money, etc. The bait usually takes, and the promoters coming into a new place seldom fail to enroll quite a list of stockholders who will pay their monthly dues for awhile and then withdraw, of course, at a loss. The "New York Farmer," in reply to a question about the standing of one of these associations, said editorially:

"Well, to be frank, we advise him to let it severely alone. So far as we can learn, the bulk of associations like the one he alludes to, doing a general instead of a local business, have failed, and most of the money invested

has been lost. The successful associations are the local ones. In this village there are four which have been running for years, some of them not less than twenty years. All are prosperous. There has never been any trouble with them, and they furnish a good investment for those who desire to save money as well as those who desire to acquire title to a home. They, unlike the kind alluded to by our reader, pay very small salaries, generally only one to the secretary, who does the bulk of the work. Two or three hundred dollars is the maximum of those."

This is good advice. One of the local concerns has been in existence in the city of Niagara Falls for many years, and it has given satisfaction to all connected with it. The only salaried officer of the association is a lady secretary, who receives good pay for the good work she is doing. The other concerns of which I used to hold shares paid and are still paying from eight to ten thousand dollars a year expenses; that is, for office rent in the city and for salaries. I withdrew from all except one in Buffalo, simply because they were too far away from me to suit me. I remained a shareholder in the one in Buffalo because I can look after it myself, and in consideration of the promise to make loans in my vicinity for the purpose of building houses that seem to be much needed just at this time. I believe that associations of this kind, if well conducted, are a blessing to the small shareholder. They induce or compel people to save money that in all likelihood would otherwise be spent. But don't go to institutions at a distance. Look up the standing of the local concerns, and then "patronize home trade."

T. GREINER.

SALIENT FARM NOTES

Cultivating Corn Said one of the most successful corn-growers I know: "I never knew of a field of corn that was cultivated too much. I have seen them cultivated too deeply or when too wet, but never too much. I never cultivate the ground when wet, if I can avoid it; but if the season is a wet one I cultivate, and keep cultivating if the soil is not too soft for the horses to travel on. I am well aware that most soils will bake quickly and become cloddy if plowed or cultivated when wet; but if the surface is stirred constantly it gets no chance to bake or form into clods. If the season is wet I have found it a good plan to keep the cultivators going whenever the horses can get over the ground, and if the season proves dry I give the cultivators no rest as long as the bow will pass over the plants. I have several times found it paid to cultivate with a single horse and a shallow-running cultivator after the plants were too high to pass under the bow of a double cultivator. When the soil is wet it needs stirring constantly to aerate it and prevent it from becoming packed or sodden. When dry the surface needs constant stirring to prevent the moisture in the subsoil from escaping."

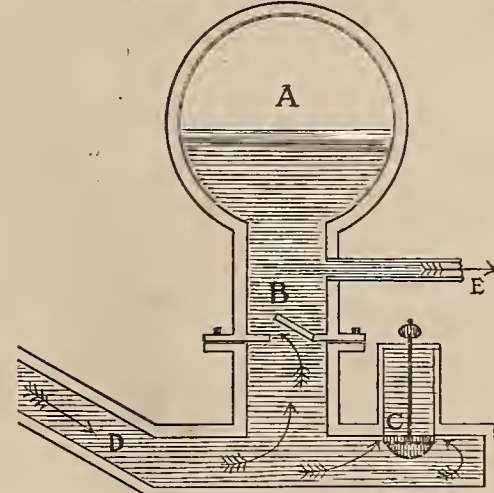
In a wet season the roots of the corn-plant do not run deep, but extend far on either side, filling the upper six inches of soil with the fine threads that feed the plant. In a dry season these fine, thread-like roots are not found near the surface, but in the subsoil wherever there is moisture. So it will be seen that the teeth of a cultivator may be run to a depth of four inches in a dry season without injuring the roots in the least, while if run at that depth in a wet season most of the feeding-roots would be cut off, to the detriment of the plant. I agree with the farmer quoted above that corn should be cultivated constantly from the time it appears until it is at least two feet high. In a wet season the cultivator should be run as often as possible until the plant is eighteen or twenty inches high, when it would be best to substitute harrow teeth for cultivator shovels. An examination of the soil occasionally will show whether cultivation should be continued and how deep the teeth should be run. If the upper soil is filled with feeding-roots cultivation will do more harm than good. If the roots are well down in the soil cultivation should be continued until the plants are twenty-four to thirty inches high.

Some farmers "lay corn by," that is, cease cultivating when it is about fifteen inches in height. This is a rule—with no sense in

it—they have adopted, and they stick to it because it is their "rule." In all tilling operations one should be governed by the condition of the soil, and not by rules. A method that is just right one season may be all wrong the next. In an ordinary season and in a dry season corn should not be "laid by" until it is too high to cultivate conveniently. The object should be to leave the surface-soil mellow to a depth of about three inches. Then the plants shade the ground, and it remains moist and loose until the crop is made.

Cover Crop After Corn Whether it would be beneficial to the soil to sow rye or some similar crop at the last cultivation is something our experiment stations should proceed at once to determine. Thousands of farmers would like to know whether they could improve their soil by seeding it with some plant that will cover it when the corn is cut off, and what plant is most suitable for that purpose. In some of the southern states cow-peas are sown among the corn, to be plowed under the following spring, and those who practise this method seem to think highly of it. One farmer in Tennessee writes me that he is making an experiment along this fine this season. He is planting his corn in rows six feet apart, then when the corn is five or six weeks old he will drill a row of cow-peas between the rows of corn. This will give the corn time to get out of the way of the peas, while the latter can be cultivated once or twice before the corn is "laid by."

Clover After Corn Clover was badly winter-killed throughout the middle West, and much of the land is being plowed for corn. I never saw soil turn over and pulverize better, and the chances are that it will yield a heavy crop. This will about offset the decreased yield, on account of poor seed, among the "average" farmers, so we can count on a "full" crop. Several farmers who are planting corn on this clover land have written me that they intend to keep this land perfectly clear of weeds and cultivate it as level as possible, and in July or August sow clover-seed among the corn. They expect to cut the



HYDRAULIC RAM

corn off as soon as ripe enough, so that the young clover will have a fair chance to grow and take firm hold on the soil before winter sets in. Two have said that they intend to husk out the corn and leave the stalks to hold snow and aid in protecting the young clover.

All of these men wish to know what I think of the plan. Much depends on the season. If the soil is damp when the seed is sown, and the corn stands up straight enough to admit of running a corn-harrow between the rows to cover the seed, it will sprout quickly and the plants will make some growth before the corn is ripe. When the corn is about ripe and the leaves wither, the clover, if not killed by a late summer drought, will make rapid growth and form good plants by winter. I said much depends on the season; in fact, all depends on the season. There must be enough moisture in the soil to sprout the seed and to keep the plants alive until the corn ceases to grow. After that they will take care of themselves. This is work for the experiment stations. It is too costly for the ordinary farmer to experiment extensively in this matter. Clover-seed is expensive, and when the farmer sows it he wants to be reasonably certain that it will grow and make a good stand.

Hay Implements As it is not far from haying-time, it might be a good idea to look over the implements and see what repairs, if any, are needed, and jot them down in your book. Is the mower in good condition, all bolts tight, sickles sharp,

and a few extra sections on hand? How is the rake? Go over the bolts of all these implements and see that they are tight. Is the hay-fork and carrier in good shape, with plenty of grease and oil ready to be used when needed? What about the hay-racks? Do they need any nails or new bolts? Is there plenty of rope, forks, etc., on hand? These things should all be looked after now, while there are \$1.50-a-day men standing about waiting. Get everything ready to push things, then push!

THE HYDRAULIC RAM

Perhaps of all inventions for the pumping of water there is none more useful and yet so little known as the hydraulic ram. Where conditions are favorable it is not only the best, but the least expensive machine that can be used. A steam-engine, in addition to its cost, demands fuel and the time of an attendant; a gasolene or a hot-air engine almost entirely eliminates the latter and greatly reduces the former; a windmill is effective only when there is a breeze; none of these can be run at night without some risk unless tended. The ram, however, obviates all these difficulties. It will run without any attention day or night, without fuel, without wind, without cost for repairs. All it demands is a fall from the source of its water-supply.

The principles upon which it works are as follows: When the flow of a stream from a water-pipe is suddenly stopped there is a sharp click or blow in the pipe. This is due to the sudden change from motion to rest of the water. The force is often great enough to burst even large wrought-iron pipes. This force is taken advantage of in the ram, which consists of two valves, B and C, and an air-chamber, A. In the accompanying illustration D is the flowing water to be stopped suddenly by the valve C, and E is the water that is forced up to the house or barn tank. When the ram is started the valve C is pushed down and the stream D allowed to escape, as shown by the arrows. Soon, however, the current becomes so strong that it lifts the valve and closes the opening. The force thus generated opens the valve B, and a quantity of water rushes into the chamber A; but as soon as the pressure here becomes equal to that in the pipe D, the valve B closes and the air in the chamber forces the water out at E. At the same time valve C falls of its own weight, and the operation is repeated, valves C and B alternately opening and closing.

So much for the principles, now for the practice. It will be useless to set up a ram unless there be a reservoir or a stream to tap at some height above it. Without a fall the ram will be worthless as a pump. The greater the height of this reservoir the greater will be the height to which the water can be forced. Thus, theoretically, one fifth of the water that flows through the channel could be raised to five times the height of the fall. In practice where friction and other impediments must be overcome the quantity is less, and so is the height to which it can be forced. A five-foot fall has been found to raise one gallon out of seven to a height of twenty-five feet, and half a gallon to double that height, the remainder running away as waste. A ten-foot fall will double these figures, and send half a gallon one hundred feet, or a quarter of a gallon two hundred feet to the tank. These figures are still further reduced by the sizes of the supply and the discharge pipes, D and E, and by bends and angles in them. The straighter they can be made the better.

It may look like an immense waste of water to get so little forced to the tank. But this machine is always at work, and in actual practice usually the tank will be running over in the morning if the ram has run all night, at least that is the writer's experience with a tank that supplied a large modern house with a large garden, greenhouse and stable for both horses and cattle.

In closing it may be remarked that large rams weighing from one hundred to one hundred and fifty pounds may sometimes refuse to work even where all the conditions above mentioned were favorable. It will then generally be found that the cause of the trouble is insufficient air in the air-chamber to force the water through the discharge-pipe to the tank. This may be remedied, as a rule, by boring a tiny hole in the pipe D. Air will enter when the water is flowing rapidly, and will pass to the air-chamber in large enough quantity to be entirely effective.

Two rams with which the writer is well acquainted have been the sole supplying pumps of the establishment above referred to and a large slaughter-house for fifteen and ten years respectively, and have cost nothing in the way of repairs save only new valves upon two occasions. M. G. KAINS.

OUR FARM

FARM THEORY AND PRACTICE

EARLY CUT CLOVER.—Timothy hay, corn stover and similar feeding-stuffs require an addition of considerable muscle-forming grain to form a good ration for stock. They are lacking in the element necessary to build up the muscles, to form milk or to make growth. Clover that stands until the heads are nearly dead, and that is burned in curing so that the leaves are wasted, makes a hay also deficient in this element that is lacking in so many American feeding-stuffs and that is costly in the foods placed upon the market for the balancing of rations, such as, for instance, gluten-meal, etc. But analysis shows, and experience of many farmers have proven, that clover at time of blooming contains a large amount of this muscle-forming material, and that if it were not for the bulk of the food animals would thrive upon it without addition of any grain. Early cut clover hay, made in the right way, is so rich that a comparatively small amount of grain is needed in combination with it. When this fact is pretty well known it would seem that no urging would be needed to make early cutting a nearly universal practice, but it is probably true that not one fourth of the clover-hay crop is harvested on time. One reason is that curing takes less time and labor when the clover is riper. The harvest comes at a busy time, when spring crops need cultivation. But one should plan for cutting clover on time just as he plans to plant corn on time. The too common delay in this matter is costly to farmers. If the weather permits, the clover should be cut when in full bloom and before more than a sprinkling of heads have turned brown, even if cultivation of corn must be neglected. The crop that has been produced should be saved when its value is greatest.

SOME DETAILS.—Last summer was very wet in several of our north-central states, and a wet midsummer causes the seed of "White Top" (*Erigeron annuus*) to germinate. This weed is in the clover-fields this summer, and soon shoots above the clover in bloom. It becomes very woody as it reaches maturity. Early cutting of clover-fields containing much White Top is desirable.

The old adage that we should "make hay when the sun shines" was never applicable in the case of clover. Make hay while the wind blows is much better. The leaves are thin, and burn to a crisp in the sun before there is any curing of the stem. If the sun does shine, the thing to do is to cure in the windrow and cock. Just as soon as the leaves begin to show any crispness rake the clover. Some farmers succeed well in curing in the mow, placing large quantities in close and deep mows. The method is risky with small amounts or open mows. But curing in windrows and cock gives a choice quality of hay.

The lifetime of a mower, no matter what the "make," depends much upon the sharpness of the knife. A keen sickle saves the mower and the team.

Early cutting nearly insures a good second crop. If the first crop is left until fully ripe, many plants die and the others often suffer from the heat and drought, so that a light second growth is made.

It is a mistaken idea that the presence of bumblebees is essential to the fertilization of the plants and formation of seed. I have seen a pretty full crop of seed in the first growth when no bumblebees were present. But it is doubtless true that these bees aid in distributing the pollen, and that the crop of seed would often be light if the bees were absent.

REPAIRS FOR MACHINERY.—The farmer has two or three well-founded grievances against many manufacturers of farm implements, and it may pay to give them a little public discussion. The first one, and by far the most vexatious, is the failure to furnish the owner of an old machine with the exact counterpart of casting or other repair wanted. I do not claim that all manufacturers are careless in this respect, but very many are. They are continually changing some parts of the machine they make, presumably for the reason that the change will be an improvement, and after a lapse of ten years the owner of an old machine finds that repairs do not fit, no matter how carefully he gives the order. In some instances five years are sufficient to throw everything into confusion. The casting or other repair comes, true to the number and letter it may be, but changed just sufficiently in form to make a misfit.

Another grievance is the cost of repairs. The machine is sold cheap enough, if sold for cash, but the repairs are usually outrageously high-priced. The manufacturer knows that when his machine is placed he has a grip on the owner and can charge what he pleases. It is true that parties are engaged in the business of making and selling duplicates of parts of most standard machines, offering their wares at a lower price, but these goods I never order because the fit and quality of goods are not usually the best. The company that makes and sells an implement should be ready to furnish repairs for that implement whenever needed, no matter how long a careful man may be able to make the implement work, and the repairs should be furnished at fair prices. The present system of doing business is almost exasperating.

SUMMER FORAGE CROPS.—There is time after the first of June to grow either drilled corn or millet for fall and winter feed, and either of these produce a large amount of feed. I prefer the corn for feeding, but the millet leaves the land in time for good preparation of a seed-bed for fall grain and grass, while late-planted corn must stand until frost threatens. An early variety of corn, drilled in rows three and one half feet apart, with kernels eight inches apart in the row, produces a big amount of rich feed to the acre. Notwithstanding this thick seeding, many stalks will make good ears that should be husked, and there is left a sufficient amount of small ears to make the feed worth more a ton than hay, while the amount an acre exceeds that of grass-land. It does not pay to plan for feeding clear timothy hay to any stock, unless it be road-horses and others at hard work, when fodder-corn can be grown. Convert the timothy hay into cash whenever the price is fairly good, and grow fodder-corn to supplement the clover and mixed hay. Millet also produces a large amount of feed to the acre, and the quality is satisfactory if the harvesting is done in time. For cows and young stuff on fall pastures nothing is better than Mammoth sweet corn. It can be planted early in June, and choice feed produced for feeding when pastures become short in the fall. Stowell's Evergreen is also a good variety, but the Mammoth is preferable for feeding purposes. DAVID.

2.

PATENTED POULTRY APPLIANCES

Under the classified head, entitled "Poultry Culture," in the United States patent office are to be found all the patents relating to the care of poultry. There are upward of five hundred patents in this class, comprising incubators, brooders, coops, nests, feeding and watering devices, and appliances to correct bad habits or vices in poultry. Many ingenious devices are to be seen in this class of inventions; in fact, any device, appliance or contrivance which has a persuasive effect upon the mind of a hen must of necessity be ingenious.

There is a patented device known in the patent office as the "hen-pusher." Much has been said and printed about this patent, and it is usually regarded as a grotesque and useless invention, lacking in merit and utility. The patent has been ridiculed and laughed at by the examiners and others. Notwithstanding all this, the invention is

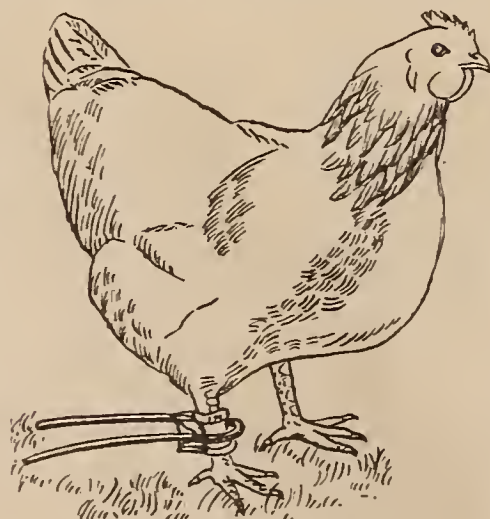


FIG. 1.—HEN-PUSHER

ingenious, meritorious, useful. There may be something funny about the idea of applying such a device to a hen, but it doubtless serves its purpose in a very efficient manner. The device is shown by Fig. 1, reproduced from the inventor's original drawing.

In order to prevent poultry from scratching up flower-beds and garden seed a piece of wire is bent upon itself centrally to form a loop to pass around the leg of the hen, and the two ends extend out backward to trail on the ground. When the hen raises her

right foot to scratch, the ends of the wire strike the ground and push her forward. If she insists in scratching, the fetter will push her out of the yard, and she will then have to make her way back by trailing the fetter. It may be funny, but it works.

A little wire clip, designed to prevent "feather-pulling," is made the subject of another patent. The device is illustrated by Fig. 2. A piece of spring wire is bent to form a bow to rest on top of the hen's bill. The ends of the wire clip are inserted in the nostrils of the fowl, and the spring action of the wire holds the clip in place. The two members of the wire between the bow and the ends are bent toward each other to enter the mouth of the fowl at the sides of the bill. The clip renders the bird's bill inoperative to pull out a feather, as the grip is very insecure and the feather will slip through the mandibles. This device is only intended to be used upon the fowl long enough to correct the habit of feather-pulling, and it is said by the inventor to take but a few days to destroy this vice.



FIG. 2.—ANTI-FEATHER-PULLER

To prevent hens from sitting is a subject which the inventor has given some attention. Bill Nye once said that the man who could cure a hen of her burning passion to sit deserved a monument. He also said that he once set a hen on a white door-knob and raised a country villa.

Quite an ingenious device, and one which appears to be practicable, is shown by Fig. 3. This invention consists of a hoodwink, or blindfold, to be applied to the hen to prevent



FIG. 3.—HOODWINK

her from flying upward to a nest. The blindfold is made of soft leather, and is so constructed and applied that the hen is permitted to look downward in order to feed, but cannot look upward. The inventor says in his specification: "When a hen is provided with one of these improved hoods she can see neither to the right nor to the left nor upward, and she is thus prevented from flying to any elevated position. All nests in the modern construction of heneries are located at an elevation from the ground, and as a fowl will not fly in a direction in which it cannot at first look, the hen will be prevented from flying up into the nest. This device will also prevent fowls from flying over fences and into gardens and the like. E. P. BUNYEA.

2.

TUBERCULOSIS OF CATTLE

Two years ago it was discovered that tuberculosis existed in the herd of over a hundred pure-bred cattle of different breeds belonging to the Ohio experiment station. A supply of tuberculin was procured from Dr. D. E. Salmon, chief of the Bureau of Animal Industry, and by its aid some forty head of cattle were separated out as being tuberculous. Several of these cattle have died and their autopsies have verified the tuberculin diagnosis. Finally, a public slaughter was held on April 11th, in which the remainder were killed and carefully examined, veterinarians being present from all parts of the state for that purpose. This test showed conclusively that this disease works so slowly, and the tuberculin test is so delicate, that if the cattle are taken in hand as soon as it indicates the approach of the disease, they may be fattened and converted into beef long before it has progressed so far as to have had any unwholesome effect upon the meat.

The disease apparently makes its first appearance, in most cases, in some of the glands, especially those of the throat, and it may be months or even years before it has so far advanced that any one but an expert

would be able to detect it, even in post-mortem examinations, while it may be a much longer time before it can be discovered by physical tests alone.

During this period the animal seems to be, and is, in perfect health, except for the small organs affected. It seldom or never coughs; it eats well, and takes on fat readily.

If, now, the animal be put into the fattening-pen as soon as the first symptoms are shown by the tuberculin test, it may be fattened and converted into beef long before the disease has become so generalized as to affect the meat in any way.

It is this slow progress of tuberculosis that causes many farmers and stockmen to fail to recognize the danger which lurks in it. The Ohio station's investigations confirm those made elsewhere in showing that there is almost no hope of recovery after an animal is once attacked. It may live for years, at first apparently in the most perfect health, but later on gradually becoming so full of the disease that tubercles and abscesses are found in the lungs, liver and all the principal glands. The animal may keep a good appetite and remain fat while all this destruction is going on within, and the farmer may thus find that an apparently fine animal is full of the seeds of infection, which it is scattering among other animals of the herd, and when it is finally supposed to be ready for beef it is found to be only ready for the fertilizer tanks.

Or the disease, after hanging in apparent abeyance for months or years, may finally take an abrupt course downward, the animal may waste away to a skeleton, and at last die.

The station has lost numerous cattle by both these routes, and it was finally decided to give an object-lesson in a public slaughter. At this slaughter animals were killed which had shown the infection nearly two years previously, and some of which were found to be badly diseased, though still in fine condition as to flesh, while others were killed which had only recently reacted to the test, and in which it required the most careful search of the skilled veterinarian to find a few tubercles on some of the pharyngeal or mesenteric glands. That these would have eventually gone the way of those more generally affected those who for two years have watched the steady progress of this disease in the splendid herd possessed by the station have not the shadow of a doubt; but at the stage at which they were killed the meat, and even such organs as the liver, which is one of the earliest to become infected in this disease, were still perfectly sound.

Now, the great lesson of this slaughter—a lesson which the station has learned at the cost of twenty or more fine animals, which have finally died or have been condemned to the fertilizer tanks when they might have been turned to better use, because they seemed to the eye to belie the verdict of the tuberculin test—that is, they were in such apparently perfect health that we could not believe that the disease had fastened its fangs upon their vitals—is this: that if this test is employed as often as once in six months, and cattle which reacted to it are separated out and fattened, they may be converted into wholesome meat; whereas, if this is not done, the final end must be the total destruction of all their value. Of course, the farmer or dairyman who would free his premises from this disease must thoroughly disinfect the stalls which have held tuberculous animals, and must allow no such animals to be brought upon his premises. That it is possible, by such measures, to maintain a herd in freedom from tuberculosis is proved by the multitude of untainted herds to be found all over the country.

To make the tuberculin test requires, of course, some skill and special apparatus. The temperature of the animal is first taken by means of a clinical thermometer, several tests being made at intervals of two or three hours. The tuberculin is then injected beneath the skin by means of a hypodermic syringe, this injection having usually been made about ten o'clock P. M. in the Ohio station's experiments. Then beginning at six o'clock the next morning, the temperature is again taken throughout the day, at intervals of two hours. If the temperature gradually rises to a point at least two degrees higher than the highest temperature of the day before, or two and one-half to three degrees above the average, then the animal may be pronounced tuberculous. If the test has been properly made, avoiding such sources of error as the periods of sexual heat, it will be found that the tuberculin diagnosis is almost infallible.

Usually it will be best to employ a professional veterinarian to make the test, but it is not beyond the capacity of any intelligent and moderately skillful person.

CHAS. E. THORNE.



**NOTES FROM
GARDEN AND FIELD**

USE OF MEEKER HARROW.—People who have only nice gravelly loams or sandy soils to work, and who can get the surface as fine and smooth as is necessary by using the common drag or smoothing-harrow, and never care to use roller or disk pulverizer, can have no idea what a lot of work is required to properly pulverize some of our more clayey soils. After plowing we have to roll, harrow with the disk or spring-tooth harrow, then roll and harrow again, and maybe repeat a number of times, and finally have plenty of lumps left on or near the surface. For garden work or for potato-growing the plan known as "working the soil on both sides" will often be of the greatest advantage. To work the soil in this thorough manner, I try to get the surface, after plowing, as finely pulverized as can be done with all our improved tools, and when that is done and the soil apparently in the very best shape for planting, I turn this mellow soil down again with the plow, and bring up the lumps from the lower half of the plowed layer. Then I go to work and do the whole over again, trying to get again as fine a surface as possible. This takes lots of work, but it secures a seed-bed that is mellow and nearly free from lumps clear down to the subsoil. One of the tools that I seldom fail to have used for finishing off a piece of ground so as to make it the very perfection of smoothness is the Meeker disk-harrow. This tool was originally devised for garden purposes. I use it now as much in farming as in gardening operations. For instance, if I have no roller handy to finish off a piece after sowing with grain, I run over it with the Meeker, and thus leave it almost as smooth as a floor and in best condition for the use of the reaper and binder at harvest-time. I often use the same tool, also, for smoothing and cultivating potato-patches after planting. In short, I think more highly of the Meeker harrow the longer I use it, and I really would not wish to have to do without it in my farming and gardening operations.

CABBAGE ENEMIES.—With the exception of a few worms no insect enemies come on my late cabbages in numbers sufficient to do much damage. And I can easily get rid of the green worm by applying some dusty material (preferably tobacco-dust) to my plants. The experiment station, at Geneva, N. Y., has recently issued a popular bulletin on "combating cabbage pests," which should be in the hands of every cabbage-grower of the country who is in any way puzzled how to manage the enemies that attack his cabbages. The bulletin treats especially on fighting the green worm and the cabbage-looper. The latter has proved to be a very serious pest at the South and as far north as Long Island. The bulletin, in speaking of the difficulty of treating cabbages with insecticides because of the crowding together of the leaves and the smoothness of the surfaces, says: "Any dry powder will adhere only in occasional spots upon the leaves, will generally collect along veins and midrib, which are not usually eaten by the worms, and be washed off by the first light rain. This characteristic of the cabbage and cauliflower foliage, with the overlapping broods of both cabbage-worm and cabbage-looper, and the retiring habit, activity and careful feeding of the latter, make it necessary in working against them to select an insecticide that will stay where it is put, and that will carry sufficient poison to kill the loopers even though they eat but a small quantity. The application must be made so thoroughly that every spot of surface will be protected, and the treatment repeated at least once to insure destruction of the newly hatched worms."

RESIN-LIME MIXTURE.—As the best poison-carrier to secure uniform distribution and perfect adhesion the bulletin recommends the poisoned resin-lime mixture, which is made as follows: For the stock solution take pulverized resin, five pounds; concentrated lye, one pound; fish-oil, or any cheap animal oil except tallow, one pint; water, five gallons. It takes about two hours to prepare this mixture. Place the oil, resin and one gallon of hot water in an iron kettle, and heat until the resin is softened. Then carefully add the solution of concentrated lye (made according to the formula for making hard soap given on the can). Stir thoroughly. Next add four more

gallons of hot water and allow the whole mass to boil until the mixture will unite with cold water, making a clear, amber-colored liquid. When through boiling, if there is not five gallons of the mixture add enough water to make that quantity. Now this is your stock solution. When you get ready to spray you have to dilute this as follows: To one part of the mixture add sixteen parts of water and three parts milk of lime, or whitewash (made by slaking a quantity of lime of best quality and adding enough water to make a thin whitewash). Then add Paris green or other arsenites, at the rate of one pound to every eighty gallons of the diluted mixture. The resin-lime mixture should be prepared only as fast as wanted for immediate use. If allowed to stand it will soon settle. Never add the milk of lime to the undiluted resin mixture. If you do a heavy precipitate will be formed which not only settles rapidly, but also is liable to gum up the valves and the plunger of the pump and to clog the nozzles of the spraying outfit.

DANGER IN USING ARSENITES.—The prejudice against the use of Paris green and other arsenites is not without good reason. These poisons are dangerous and deadly. It will not do to spray these poisonous mixtures indiscriminately on cabbages, cauliflowers and lettuces in any stage of development. There is, of course, less danger with cabbages than with the other crops mentioned. The mixture cannot possibly get inside of a solid head; yet the outside leaves are frequently fed to cattle or other domestic stock. It is a safe rule to avoid using these poisons on anything we want to eat if we can accomplish the same object in other ways. At any rate do not make such applications after the cabbage-heads are nearly full grown. With cauliflowers we will have to be very much more careful. Poisons should not be used in any form after the heads have even begun to form. On such things as lettuce I would not consent to use poisons at all.

THE HARLEQUIN CABBAGE-BUG.—A reader in Oceana, W. Va., writes that three or four years ago a new bug made its appearance in their gardens. First it only attacked the mustard, and then it began to feed on cabbages, and the people are about helpless against the new foe. Undoubtedly this is the harlequin cabbage-bug, a great pest in the South, and one of which here at the North we know very little. Mustard is its favorite food-plant, and the only thing that is yet suggested to get rid of the enemy, and that seems practical and effective, is the plan of planting mustard as bait, and then spray the plants when infested with the bugs with pure kerosene, thus destroying both the bugs and the plants. Another batch of mustard should have been provided in the meantime to catch the stragglers. There is only one more precaution that should be mentioned; namely, to destroy all old cabbage-leaves, stumps and all other rubbish in the cabbage-patch promptly after the cabbage season. With this rubbish you will most likely also destroy the bulk of the old fellows that have picked this rubbish out as a good place to winter over until the beginning of spring propagation and operations.

ARSENITES FOR THE POTATO-BUG.—The same reader also asks me to tell him what remedy I use for the potato-beetles and their broods. I still stick to Paris green, although I am yet hopeful of finding among the newer preparations (such as green arsenite, arsenate of lead, etc.) one as good that will remain longer and better in suspension in water, or perhaps even become dissolved in it. Perhaps it is of less consequence to me what arsenite I use, since I spray my potatoes with the Bordeaux mixture anyway, and it is only a small matter to add a pound of Paris green to from fifty to eighty gallons of the spray mixture, and thus have it effective for insect as well as fungus enemies.

If you do not spray with Bordeaux mixture, you can get one of the modern powder-guns that distributes the dry Paris green so uniformly and so economically that a pound of it can be applied over an acre of potato-vines in little time and with an assurance of getting rid of the bugs in short order. Wherever flea-beetles and blights abound, however, by all means resort to spraying with the poisoned Bordeaux mixture. The flea-beetles, although they cannot be poisoned with Paris green, do not like the Bordeaux mixture, and usually will seek some patch that has not been treated.

T. GREINER.



**ORCHARD
AND SMALL FRUITS**

CONDUCTED BY SAMUEL B. GREEN

WHAT THE SAN JOSE SCALE LOOKS LIKE

Within a month I have received nearly a dozen specimens, each of which the sender has thought was very likely the San Jose scale, but not one of these specimens was this scale. In one case the specimen sent was covered with scars made by the buffalo tree-hopper, and was entirely free from any scale-insect, but the sender was quite sure he had found the very injurious San Jose scale. It should be more generally known that we have had for many years a large number of different kinds of scale-insects infesting our orchards and ornamental trees and shrubs. Some of them are quite injurious, as in the case of the "oyster-shell bark-louse," while others, like the scurfy scale, cause very little trouble. The San Jose scale is quite distinct from most of our other scale-insects. It is so very small that it can scarcely be clearly made out without a lens. It is grayish in color, and round, with a clearly defined nipple in the center, and this nipple is its characteristic feature. There is one other species which so closely resembles the San Jose scale that it is with difficulty distinguished from it, even by a skilled entomologist, but it is not common.

APPLE-TREE CANKER

By apple-tree canker is meant a diseased condition occasionally seen on the larger branches of apple-trees, which causes the bark to turn black and then peel off, leaving a dark wound which gradually increases in size. It often starts at the point where a limb has been cut off, or in the rough bark. Recent investigations seem to show that it is caused by a fungous disease that is quite easily controlled. The treatment recommended is to cut off and burn the diseased portion, then spray the tree with a strong solution of blue vitriol before the buds start, and afterwards apply Bordeaux mixture as recommended for scab-fungus. Spraying as here directed also serves to keep all the moss and lichen off of the bark.

INQUIRIES ANSWERED

Winter-killed Raspberry-vines.—J. W. T., Ticonderoga, N. Y. The blackcap canes you send appear to be dead, and I think it due entirely to the severe winter just past. They are nearly free from anthracnose.

Blight on Dewberry.—F. C. E., Holmesville, Ontario. The Lucretia dewberry is a fickle thing in many locations. The only real satisfactory crop I ever had of it was in the very dry season of 1894, when our common blackberries were a failure, and I have grown them for more than ten years. I think that the blight to which you refer can be kept in check by spraying with Bordeaux mixture before the leaves unfold, and once or twice thereafter.

Burbank's New Plums.—P. P. W., Chester Valley, Pa. The Climax, Sultan and Bartlett plums have hardly been offered to the public, and so far as I know, in the form of scions only. I think they all have considerable of the Japan plum in their parentage, which makes me doubtful about their value for general planting in the northern states, but I am inclined to think they will prove sufficiently hardy for Pennsylvania. They are magnificent fruits.

Late in Leafing Out.—J. W. G., Fairbank, Canada. I think the trees that are not starting well must have been injured by the past very severe winter, and will probably sprout from the trunk or larger branches. The application of wood ashes would have done no injury even if you had put it on several inches thick. There is no use in giving them any manure until they start, for it is more liable to do harm than good to trees that are injured until they start into growth. It is a good plan with plants, as well as animals, not to feed them heavily when they are weak.

Plum-curculio.—H. M., Bloomingburg, Ohio. Your plums probably fall because they are stung by curculio. This is a little black-snout beetle that lays its eggs in the fruit soon after the flowers have fallen. The remedy is to commence as soon as the flowers fall and go over the trees daily and jar them and gather the insects, which a very slight jarring displaces in the hours of the early morning. Before jarring sheets should be spread out under the tree. If jarred once a day so long as any curculio are found the remedy is very effectual. The beetles dissemble death when shaken off, and are easily gathered.

Black-knot.—C. L. A., East Sharpsburg, Pa. The black-knot is caused by a fungous disease that spreads by means of spores from one plum-tree to another. Some kinds are much more liable to its injuries than others, and the Damson is one of these. The best treatment is the cutting off and burning of the diseased branches, and the trees themselves when the latter are badly diseased, and spraying the trees at least once early each spring with thick Bordeaux mixture, which keeps

the disease from entering. Nothing much would be gained by grafting with some other kind, as the disease might injure them or enter the stock below the graft. In several states there is a law that permits of the authorities destroying trees infected with this disease. If the knots are kept cut off the disease will not increase much; but to be most effectual everyone should cut them off, as a few diseased trees may infect a whole neighborhood.

Time to Cut Trees to Prevent Sprouting.—F. M. B., Smileyville, Mo. Just at the close of the most rapid growth of the season is the time when trees that are cut are least liable to sprout. This will be about the twenty-eighth of June. The trees store up food in the trunk branches, twigs and roots during the latter part of summer, which material starts the growth of spring; but this is largely used up by the first of July, so that if trees are cut then they have little or no food stored up to start new buds. However, some trees, as willows and poplars, will sprout a little when cut at the time recommended, but the sprouts will be weak and easily killed.

Camel-cricket—Peach-borer.—J. C. P., Morantown, Kan. The so-called cocoon which you send is not a cocoon at all, but a cluster of the eggs of the praying-mantis, known also as rearhorses and camel-cricket, which is a comical-looking insect with a very peculiar elongated front portion to its body. Its eggs are laid in peculiar clusters on twigs, fences, etc. These insects are carnivorous, and feed on other insects, and even eat each other, and are great fighters. Their method of warfare is to take advantage of their resemblance to sticks, leaves, etc., and lie in wait for prey, and when they find it they pounce onto it very quickly. A beneficial insect.—The other insect which you inclose is a peach-borer. The best remedy is to dig them out early in the spring and again in September.

White Grub in Strawberry-bed.—H. B. S., Pittsburg, Pa. There is no practical remedy for the white grub that can be applied to the soil. They live chiefly among grass-roots, and when a sod is broken up they feed on the roots of whatever is planted in it. On this account strawberries should not be planted on land that has been in sod until at least two years have elapsed. Sometimes the grub-worms will work out from the sod-land where it comes near to land that is planted to strawberries, but generally the white grubs that are hurtful to strawberry-plants were in the soil when the plants were set out. In my practice I occasionally lose a few plants from this insect, but if I see a strawberry-plant wilting without cause I often lift it gently with a spade, take out the white grub at its root and reset at once, and the plants recover.

Scurfy Scale—Buffalo Tree-hopper.—W. J. H., Elmwood, Ill. The white, flake-like scale on the twigs you inclose is known as scurfy scale, and is not specially injurious. The remedy for it is spraying with strong whale-oil soap-suds or strong kerosene emulsion.—The circular punches in the bark of the other specimen are the result of wounds made by the buffalo tree-hopper when it laid its eggs under the bark. This insect is a funny-looking triangular affair which lays its eggs in the wood of several different hard-wooded plants, including the apple and maple. These hatch into very peculiar-looking larvae which live by sucking the juice of trees. As a sucking insect it is not very injurious, but its injury is chiefly due to its habit of puncturing holes in the stems of trees when it lays its eggs. The only remedy is confined to jarring off the larvae onto oiled sheets.

Brown-rot on Plums—Ammoniacal Carbonate of Copper.—H. H. B., Lafayette, Ind. The cherries are probably injured by the common brown-rot of the plum and cherry, known as the monilia. This disease is especially injurious in moist, warm weather, and often causes serious loss to plums and cherries. The proper treatment is to spray with Bordeaux mixture as soon as the fruit is set, and then use two or three applications of ammoniacal carbonate of copper. Bordeaux mixture would prevent the fruit from rotting, but it would stain the fruit if used after it was of large size, and on this account it is best to use some clear solution, such as carbonate of copper. The formula for Bordeaux mixture has so often been given that there is probably no need to do so again.—Ammoniacal carbonate of copper is made as follows: Ammonia (twenty-six degrees Beaume), three pints; water, forty-five gallons. Dilute the ammonia with two gallons of water and the copper carbonate will dissolve quicker.

Leaf-rollers.—E. F. D., Gilbertsville, N. Y. The leaf-roller which you refer to as injuring your maple-trees has been reported as doing much injury in a few sections to maple and box-elder trees. The worm which causes this injury is a small green caterpillar about three-fourths of an inch long, which commences its work in June, soon after the leaves are nearly full grown. It draws the edges of the leaves together and feeds inside of the leaf. When frightened it drops by a long silken thread and remains suspended by it in midair until danger is passed, when it ascends by a hand-over-hand motion to its resting-place in the folded leaf. It has been so abundant in places as to strip off all the leaves. The worms pupate in June, and the moths emerge soon after. These are from three-fourths of an inch to an inch in breadth when the wings are fully expanded. The fore wings are brownish yellow and the hind wings light yellow in color. The eggs were laid about the first of July, in clusters, on the rough bark of the trees, and not on the smooth twigs, and are nicely protected by a glue-like material and by the down from the moth. These hatch the following season. The best remedy is to thoroughly spray the foliage with Paris green just before the caterpillars commence their work, and again before the leaf-rolling process is very far advanced. The Paris green should be used at the rate of one pound to 100 gallons of water. It is also a good plan to whitewash very thoroughly the trunk and main branches of infected trees, so that the eggs will not hatch, or the young will be prevented from reaching the foliage. Where this pest occurs in villages or cities the authorities should take prompt action to subdue it and prevent its spread.



Conducted by P. H. Jacobs, Hammonton, New Jersey

HOW TO FEED

THE most difficult question to answer is, "How much food shall one give?" When we consider that no two fowls have the same appetites or eat the same quantity of food the question is not one easily answered.

The great difficulty in feeding is to know what to give. The two principal materials are nitrogen (for flesh, albumen, etc.) and carbon (for fat). The nitrogenous foods are meat, beans, clover and, to a certain extent, the grains.

Any breed of fowls that are active foragers, and are laying, may be fed all they will eat of nitrogenous foods; but if the hens are apparently in good health, and do not lay, feed no corn, give plenty of meat and allow bulky food, or they will quickly fatten.

BREEDS FOR EARLY LAYERS

In selecting the winter layers it is best to reserve those pullets that were hatched early. If the small breeds are kept, the pullets hatched as late as the beginning of June sometimes begin to lay about Christmas, but those a month older will give more satisfactory results.

HIGH PRICES FOR BROILERS

Broilers have sold as high this year as for several seasons previously. Although it seemed by the quotations that prices were not higher than usual, yet as much as seventy-five cents for a chick (weighing one and one half pounds) has been obtained.

could not be had except with difficulty. It has been urged upon readers to endeavor to produce broilers only of the highest quality, as it does not pay to raise something which can easily be procured in the market.

SELLING AT GOOD PRICES

A large number of surplus fowls will now be thrown on the market. There is only one objection to it—the expense. In order to ship broilers one must observe these rules: Give no food for twenty-four hours, pick dry and perfectly free from pin-feathers, and cool them thoroughly before they are packed.

CONDITIONS OF FEEDING

The larger portion of chickens supplying our markets are raised on farms, where they have ample liberty for a free range, but the amount of grass consumed by them is not generally appreciated as much as it should be.

NOTES FROM CORRESPONDENCE

A RECORD OF LAYING.—I was just reading "R. N. D.'s" experience with poultry, and inclose my wife's poultry account for 1898, on a lot 40 by 130 feet, with buildings and two and one half rods of garden, so you can draw your own conclusions.

HATCHING WITH INCUBATORS.—In a former article I told you something about my experience with hens and incubators. I will now tell you why I think incubators fail to hatch many fertile eggs. It is not that they leave undone anything a hen does, but is owing to what they do that a hen does not.

INQUIRIES ANSWERED

Fertility of Eggs.—C. W. M. Gainesville, Texas, writes: "I have two breeds running together. How long after separating the breeds should the eggs produce pure-bred chicks?"

Brown Eggs.—S. E. T. Natic, R. I., writes: "Which breed of fowls matures the soonest and lays brown eggs?"

Overfeeding.—"Subscriber," Newport News, Va., writes: "Several of my hens have died, the symptoms being bowel disease. They have full crops, comb purple, but die in a few days."

Lice.—"I lost a bantam hen, and another is sick. They become drowsy, do not lay, linger a month or more, and die."

Ailment of Turkeys.—F. M. S., Beverly, Kan., writes: "My turkeys are coughing, but otherwise do not appear sick. Is it roup?"

Scaly Leg.—"Subscriber," Panton, Vt., writes: "My fowls have what appears to be large scales on their legs, the legs appearing enlarged. They are fat, but do not lay."

Probably Lice.—N. N., Dayton, Iowa, writes: "My chickens stand around drawn up, do not lay, and sometimes gape."

Probably Parasites.—C. T. A., Anderson, Fla., writes: "My chickens, goslings and turkeys have sore heads. The goslings become blind, and the toes of the chicks curl up as though they had been in a fire."

EXCURSION TO THE SEASHORE

MIDSUMMER OUTING TRIP TO THE OCEAN VIA PENNSYLVANIA LINES

Persons in quest of a delightful haven at which to spend their summer vacation will be interested in the announcement that special excursions to the seashore will be run over the Pennsylvania Lines Thursday, August 10th.

During the past two seasons low-rate excursions over this direct through route to the ocean carried many happy people from points in Indiana and Ohio to ten of the most attractive seaside resorts on the Atlantic Coast, viz: Atlantic City, Cape May, Angelsea, Avalon, Holly Beach, Ocean City, Sea Isle City, Wildwood, New Jersey, Rehoboth, Del., and Ocean City, Md.

The excursions for the midsummer of 1899 will again afford opportunity to enjoy refreshing ocean bathing and sailing, the invigorating sea air, and the myriads of attractions for which the seaside is famous.

Excursion tickets will be sold to the ten charming resorts mentioned from stations and at round-trip rates indicated below:

Table with two main sections: 'FROM STATIONS ON THE PAN HANDLE ROUTE' and 'FROM STATIONS ON THE FORT WAYNE ROUTE'. Each section lists round-trip fares from various cities to destinations like Indianapolis, Columbus, and others.

Table listing round-trip fares from various stations (like Fort Wayne, Lima, and others) to destinations such as Smithville, Orrville, Massillon, etc.

It will be an excellent chance for a pleasure trip to the sea. The time, midsummer, is the season for outings, and the places are particularly rich in attractions for the summer idler.



REPAIRING NEATLY DONE is an obsolete phrase on the farm where Page Fence is exclusively used. It takes care of itself while you wait.

Boys & Girls

We are giving away watches, cameras, solid gold rings, sporting goods, musical instruments & many other valuable premiums to boys and girls for selling 18 packages of Royal English Ink Powder at 10c each.

30 DAYS FREE TRIAL Buy direct from factory. Save agents large profits. No money in advance. WARRANTED 10 YEARS

\$45 Arlington Machine for... \$14.50 \$35 Arlington Machine for... \$12.50 Other Machines \$8.00, \$9.25 and \$11.50

\$5 to \$30 3000 BICYCLES Everyone a Bargain. NEW AND SECOND HAND. 2d Hand—good as any for service, \$5 to \$12.

DON'T TAKE CHANCES! Buy no incubator and pay for it before giving it a trial. When you try a machine you will know whether you want to buy it or not.

FREE TO AGENTS—Complete outfit for big paying business. All profits clear, as we prepay charges. The rush is on, so come quick. Address THE CROWELL & KIRKPATRICK CO., Springfield, Ohio

SOUTH ATLANTIC FIELD NOTES

As to conditions and prospects in the tobacco and cotton growing states they can be briefly summarized as follows: The farmers have had, and are yet having, a very hard time, yet conditions are more favorable than they were one year ago.

The low price for cotton is inducing thousands to grow less of it and to grow more grain for food and more hay for stock. The use of cotton-seed meal as stock feed is on the increase.

Unquestionably many farmers throughout the South are being greatly benefited by the published results of the experiments made at the state experiment stations. This is as it should be. The farmer who is taxed for everything in sight, who has no opportunity to secrete his bonds or other property, has a right to the benefit resulting from the use of the public funds he assists in creating.

What we do need in all the southern states is more care in taking the best means to prevent the surface-soil from being washed away during the winter months. The farmer who fails to keep his land covered with a growing crop of winter rye, winter oats or wheat, or with the decaying stalks of crimson clover, the cow-pea or velvet-bean, loses fully as much, if not more, than he pays out for his commercial fertilizers each season.

Several years' residence in northern Virginia, which succeeded a long residence in southern Ohio, has shown me that the climate here is much more temperate. In fact, there is no winter until nearly Christmas, and spring work can be begun late in February or early in March.

That no man, be he white or black, is too poor to own a pack of worthless sheep-killing dogs is a fact patent to all who visit the South. Wherever the pine-tree flourishes there it is that the unmolested sheep thrive and multiply, and the wool and mutton product, were it not for the destruction of the flock by dogs, would soon enrich the owner.

J. W., JR.

EXTRACTS FROM CORRESPONDENCE

FROM NEBRASKA.—On a recent trip of about thirteen hundred miles, mostly in two of the old agricultural states, I saw no place, all things considered, offering better inducements for a man with limited means to make a beginning and build up a home than can be found here in the West.

FROM CANADA.—Waterloo and Woolwich townships are situated in the eastern part of Waterloo county. These two townships were settled by people of German descent in the early time of 1820 to 1825.

FROM CALIFORNIA.—Murphy's is located among the foothills of the Sierra Nevada mountains, distant one hundred and fifteen miles from San Francisco and twenty-eight miles from Milton, the nearest railroad-point. We are located in the extensive mineral belt that runs through the entire state, from Oregon on the north to the boundary-line with Mexico on the south.

With our DUPLEX AUTOMATIC BALL-BEARING MACHINE, you can make 100 styles, and 50 to 70 rods a day of the best and most practical fence on earth. 12 to 22c. per rod is the cost of wire to make it.

WASHING DISHES. A mountain of dishes confronts the average housewife after all the family have dined. They are greasy dishes, too, and hard to get clean with soap and water. The best, easiest, quickest and cheapest way to wash dishes is to use a little GOLD DUST WASHING POWDER.

\$16.50 NO MONEY IN ADVANCE!! Better Wheels at Lower Prices than Ever Before Offered. 1899 styles shipped C. O. D., subject to examination to anyone, anywhere, in lots of one or more.

DIETZ BUCKEYE DASH LAMP. This is a most desirable combination Lantern, either to carry around in your hand or on your carriage when driving for which latter use convenient holders are supplied.

ELGIN WATCH. Ladies or Gents size, stem wind and set. WARRANTED 20 YEARS. Elgin made movement in a 14 k. Gold plate hunting case, elegantly engraved.

5000 BICYCLES. Overstock. Must be closed out. Standard '99 Models guaranteed, \$10 to \$25. '98 and '97 models \$8 to \$15.

EARN A BICYCLE! By selling Baker's Teas among your neighbors, a total of 100 lbs. for Bicycle; 50 lbs. for Waltham Gold Watch; 25 lbs. for Silver Watch; 10 lbs. Crescent Camera or Gold Ring.

FREE SHIRT WAIST SET. Rolled Gold Shirt Waist Set FREE. The Latest Style. Wear our Country's flag at all times.

ORCHARD PROFIT. depends upon working all the fruit into a salable product. Cider for instance, if good, clear and pure it sells readily at a profit.

THROW AWAY YOUR HAT PINS. The Ideal Hat Fastener is a perfect device for holding the hat on the head without a pin, no matter how hard the wind blows.

RAPE IS THE BEST FORAGE PLANT. It furnishes succulent food from May to December. No equal for summer and autumn SHEEP FOOD.

TYPEWRITER HEADQUARTERS. 102 Fulton St., New York, sell all makes under half price. Don't buy before writing them for unprejudiced advice.

IF WE CAN SAVE MONEY for our customers in Norway, Sweden, Australia, South Africa and Canada, we certainly can for you. We offer made-to-your-measure SUITS, from \$5.75 to \$15.00, guaranteed to fit.

The IDEAL Steam Cooker. Cooks a whole meal over 1 burner, on gas, oil, gas, or common cook stove. Reduces Fuel Bills One-Half.

QUERIES

READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two WEEKS before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

To Kill Gophers.—C. F., Clarks' Ford, Idaho, writes: "Push a small sharp tube through a potato or carrot. Push the piece out of the tube, and divide it into three parts. Throw away the middle part and use the others for closing the hole in the potato. Between the two end-pieces insert a little strychnine. Make a hole in the runway with an iron rod and drop in the baited potato, and fill up the hole with earth."

Cabbage-maggot.—R. A. B., Lisbon, Ohio, writes as follows in regard to W. R. M.'s query in April 1st issue: "My remedy never fails. Take one pint of salt to two and one half pints of water, dissolve, and put one pint of the water to each plant close up to the stalk so it covers all the roots. That will kill all the worms, and make the cabbage grow. For club-root in cabbage use one teaspoonful of sulphur to every plant when setting out in the ground."

Black Squash-bug.—W. T. S., Millard, Wis. Examine your squash-hills every day as long as you can find squash-bugs, and pick them off, either mashing them with a pair of home-made tweezers or throwing them into a little pail containing some kerosene. You can easily find these bugs in the morning if you will place a few chips or some other rubbish among the plants of each hill, and then look for the bugs under this rubbish.

Cabbage-worm Remedy.—P. P. W., Chester Valley, Pa. For many years I have used one pound of Paris green and thirty pounds of flour mixed and dusted onto the cabbage to kill the cabbage-worm, and it has been perfectly satisfactory. I have recommended it to many other cabbage-growers, who now use it, and I have yet to hear of any case of poisoning from it. Professor Gillette found by analysis that where this remedy was used one would have to eat about thirty cabbages at one time, outside leaves and all, immediately after the poison was applied, in order to get arsenical poisoning.—Samuel B. Green.

Corn or Boll Worm.—N. H. McC., Rice's Landing, Pa., writes: "Can you tell me what will help me in preventing or destroying the sugar-corn worm? We have only had this pest here a few years, and would be very glad to be rid of it. Of late years our choicest ears, early and late, are very nearly ruined by this pest plowing furrows under the husks."

REPLY BY T. GREINER:—I am afraid that I shall not be able to help you much. There is no way that I know of to prevent the worm from getting on the corn, and no way to kill it after it has got there. Plant medium early sorts only, then watch for the enemy, tear off every attacked ear and at once feed it to pigs or cattle.

Caullflower-seed—Pea-weevil.—F. M., South Bend, Wash., writes: "How is caullflower-seed raised?—Is there any way, and how, to destroy the bugs that are generally in the seed-peas when gathered, without destroying the germs of the peas?"

REPLY BY T. GREINER:—Francis Drill, in "Farm Gardening and Seed Growing," says: "The surest way is to sow in July, transplant and keep the partially grown heads over winter in a cold frame or cellar and set them out early in the spring, similar to treatment of early cabbage for the purpose.—The eggs or maggots of the weevil in seed-peas may be killed by exposure to the fumes of bisulphid of carbon in a closed vessel, without danger to the germs of the peas. Put the peas in a tight box or vessel, then set a dish containing a small quantity of the liquid on top, and close tightly. Leave thirty-six or forty-eight hours. Keep lamps, etc., away from the stuff. It is volatile and inflammable."

VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two WEEKS before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to DR. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE:—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

Periodical Ophthalmia.—S. A. C., Gartin, Va. What you describe is a case of periodical ophthalmia (so-called moon-blindness), and incurable.

Brain Disease.—E. L., Urnsa, Ill. The symptoms you describe are such as are produced by severe pressure upon certain parts of the brain. A carefully conducted post-mortem examination of your cow, which, I suppose, died, would reveal the cause.

Wants Book.—F. H. M., East Claridon, Ohio. Apply to a bookseller in any of the larger cities, and tell him what you want.

Probably Tuberculosis.—T. A., Florence, Wash. What you describe looks to me like a well-advanced case of tuberculosis. If it is, your cow, unless she dies before, will get decidedly worse immediately after calving.

"Sort" of a Wart.—B. S., Lincoln, Kan. The information you give is too meager to determine what kind of a morbid growth it may be that you call a "sort of a wart." It may be nothing more than a sessile wart, and it may be a botriomykion. The best you can do will be to have the animal examined by a veterinarian.

May be an Enlarged Thyroid Gland.—H. B., Port Sidney, Ont. The swelling of the size of a goose-egg in the throat of your calf may be nothing but an enlarged thyroid gland. Since you are preparing the calf for the shambles anyway, examine the swelling after the calf has been butchered, and see what it is.

A Crippled Hog.—G. H., Stearus, Mich. When this reaches you your hog will have been crippled for three months, and the degenerations produced during that time in the joints, tendons, etc., of the fore legs, will be such as to make them irreparable. In such cases a treatment can be effective only if applied in time; that is, immediately.

"Blind Teeth."—S. H., Bronson, Kansas. "Blind teeth" are a myth. Small supernumerary teeth, however, are frequently met with in horses, and it also happens that small remnants of the first milk-molars fail to become absorbed, and therefore remain, often for several years, after the permanent molars have cut through; but neither have anything to do with the eyes or with causing eye diseases, but are perfectly innocent.

A "Puffy" Swelling Around the Hind Knee.—S. A. T., Shaw, Oregon. You say your cow has "a puffy excrescence or swelling on the knee-joint of the hind leg which extends nearly around the leg," but does not cause any pain or lameness. If you will state whether you mean the hind knee—the joint corresponding to the human knee—or the hock-joint—the joint corresponding to the human instep and heel—I will answer your question.

Tympanitis.—L. M. S., Ioka, Iowa. Feed moderate but sufficient quantities of nutritious food, which, at the same time, is perfectly sound and easy of digestion, and you will have no more trouble, unless the digestive powers of the cow have already been too much impaired. Bloating is produced if the digestive processes are interrupted and superseded by chemical processes. Large quantities of straw, a substance to a large extent indigestible and unnutritious, is no food for a milk-cow.

A Sick Bull.—J. F. McC., Normal, Ala. It is impossible to make a diagnosis of your case and to advise you what to do upon the simple information that your bull has been down for three days. There are no such diseases as "hollow horn" and "hollow tail." All grown horned cattle have hollow horns, and the tails of cattle may be injured in various ways—may become inflamed, and the lower end may become filled with hydroptic effusions (blood serum) if the animal has become hydremic either by disease or from want of proper food, but the tail will never be hollow.

Knuckling Over.—M. W., Adams Center, N. Y. If your horse does not go lame, and knuckles over only when trotting, there is a good prospect for recovery, but only if the animal can have absolute rest for a long time and if possible on a level floor. The knuckling over is brought about by a straining and subsequent stretching of the ligaments of the pastern (distortion of the pastern-joint), in your case probably produced by too hard or excessive pulling. If you should find that the horse also knuckles over while at rest on a level floor, call on a veterinarian and ask him to bandage the pastern-joints in such a way as to give support to the weakened ligaments, and thus to enable the horse to stand on his feet in a normal position. The veterinarian will probably show you how to do it so that you will be able to attend to the renewals of the bandage yourself.

Tympanitis.—E. H. F., Arvada, Colorado. All kinds of leguminous plants, alfalfa included, if eaten in large quantities while wet or when wilted and in a fermenting condition, are very apt to cause bloating by a too rapid development of chemical and fermentation processes. Where one is so situated that he has to depend upon alfalfa or upon any other kind of clover or leguminous plants as the principal food for cattle, the development of these processes can be sufficiently retarded to disable them to supersede the process of digestion if the cattle are first fed some dry food before they are allowed to go into the alfalfa (or clover) field, are never allowed to go in while the alfalfa (or clover) is wet, receive every morning before they go in a pinch of salt, and are never allowed to eat alfalfa (or clover) that has been cut and is wilting or in a state of fermentation.

Scab and Some Other Diseases.—H. K., Ulysses, Kan. Those of your sheep that lose their wool and get "wangy," and possibly the whole herd, have scab, and if not otherwise diseased can be cured by first shearing and then dipping them. How this is to be done and to be managed, etc., you can best learn from an experienced flock-master. To describe the whole process in all its details would require much more space than is allotted to me. Those sheep, probably mostly lambs or young sheep, which are coughing and show other symptoms of severe affection of the respiratory organs undoubtedly have lung-worms, and were grazing last summer either on low and wet land or have been drinking stagnant water from pools or ditches containing the worm-brood of the lung-worms, and maybe of some other worms, too. Nothing can be done

with medicines against the lung-worm disease, and only such animals will survive and be restored to a comparatively healthy condition as are naturally strong and vigorous, harbor not too many of the worms, receive nutritious food and are well cared for. This also explains why older sheep are much less affected by this disease than the lambs or yearlings. The young lambs probably die because the ewes have been weakened by disease. The best advice I can give you is to have your flock and also your sheep-range inspected by an experienced flock-master, and then to destroy all those sheep that will die anyhow, and to have the others dipped in a proper manner, and after having been dipped, protected against a renewed infection. One dipping is seldom sufficient, but a second dipping, five or six days after the first, ought to be sufficient to effect a cure.

Lame—Periodical Ophthalmia.—C. M. F., Confidence, W. Va. You neither describe nor locate the lameness, and only state that it is in the right fore leg, and periodically worse. The only information of any diagnostic value is contained in the statement that the horse "points" (sets the lame foot forward after working or riding), and in what you say about the probable cause (breaking through the ice and struggling to get free), but this is by no means a sufficient basis for a reliable diagnosis, and only suggests that possibly the suspensory ligament (flexor tendon of the pastern) may have been injured. Hence the only advice I can give you is to have the horse examined by a veterinarian, and to give him strict rest.—The eye disease you describe appears to be periodical ophthalmia, in some places best known under the misnomer of "moon-blindness," a disease which almost invariably leads to total blindness.

An Offensive Discharge From the Nose.—R. J. B., Enid, Oklahoma. In horses an offensive (fetid) discharge from the nose either comes from decaying bone or cartilage or from dying (gangrenous) tissues; for instance, mortifying portions of the lungs. This latter does not seem to be the case in your horse, which, according to your statement, is lively, has good appetite and in an anemic condition, meaning that the disease is chronic, has existed for a considerable length of time, and is feverless. In glanders the discharge from the nose, often one-sided, becomes offensive only after the morbid process has made considerable progress and has attacked either cartilage—usually the cartilaginous septum between the nasal cavities—or osseous (bone) tissues, and then the diagnosis is easily made by any one familiar with that disease, and does not require any mallein test, because a careful examination of the nasal cavity from which the discharge is taking place is easily made if the cavity is illuminated by throwing into it the rays of the sun by means of a mirror, and will, in most cases at least, reveal the true condition, namely, chancrous ulcers and corrosion on, or even perforation of, the septum. But do not misunderstand me. I do not say that your horse has glanders, and only hint at the possibility that such might be the case, for it is, according to your statement, not excluded that the offensive discharge may have a different source; for instance, a decaying tooth with a fistulous opening in the maxillary sinus; but in that case the animal would hardly eat as well as you say he does. Whatever it may be, I advise you to keep the horse alone, away from other horses, until a thorough examination has revealed the source of the discharge and the nature of the disease.

Probably a Case of Mange.—A. S., Columbus Grove, Ohio. The disease of your mare, according to your description, appears to me to be a case of mange, especially since it has also been communicated to the mare's colt and, as I have to conclude from your remarks, to your other horses. Although your veterinarian may have treated the disease under a wrong name, I have hardly any doubt but that a cure would have been effected if you had guarded against reinfection by thoroughly cleaning after each wash not only the stable and stalls, but also all stable and grooming utensils and everything apt to come in contact with the horses—for instance, halters, bridles, harness, blankets, etc. As it is now, give all your horses first a thorough wash with soap and warm water, to be applied with a good brush, and then before they are perfectly dry another thorough wash, to be applied in the same way, with a five-per-cent solution of creolin (Pearson's) in warm water. Do the washing outdoors, and then immediately after the washings have been completed turn all the horses out to pasture; or if that cannot be done, take them to another non-infected place. This done, go to work and most thoroughly clean and disinfect the whole stable and everything that has been in contact with the horses. Blankets and similar things are best cleaned and disinfected by boiling them in water and then by washing them. Things made of leather, such as harness, etc., must be cleaned with soap and warm water and then be oiled with fish-oil. All things that cannot be reliably cleaned and disinfected, or are not worth the labor and expense, must be burned. As to the stable and stalls, including floors, a thorough cleaning and scrubbing and ventilating by keeping every door and window open whenever feasible, will be sufficient, provided the horses do not occupy them within six or eight weeks. The horses themselves ought to be washed with the creolin solution five days after the first. If the washings are applied in a thorough manner, and any reinfection is made impossible, as a rule a second wash is sufficient in all ordinary cases to effect a permanent cure. Still, I advise you to wash, at any rate, the old mare, whose case is an inveterate one, a third time, five days after the second wash, and it will do no harm, but insure success, to wash all of them a third time.

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Open Face, with Monogram, Fall 15 Ruby-jeweled Elgin Movement.

CO-OPERATIVE PLAN—Members secure wholesale cash prices and \$1.00 weekly payments. Club "C"—Finest 14-karat, gold-filled, 25-year case, with full 15 ruby-jeweled, Elgin, Remington or Waltham movement, any size, any style of engraving, hunting or open face, \$2.00 cash and 23 \$1.00 weekly payments. Other grade Watches and Diamonds on same terms. Watch or Diamond shipped on receipt of first payment and references. Free catalogue tells all about it. THE WALKER-EDMUND CO., MGRS., 75 ORIEL BLDG., CINCINNATI, OHIO.

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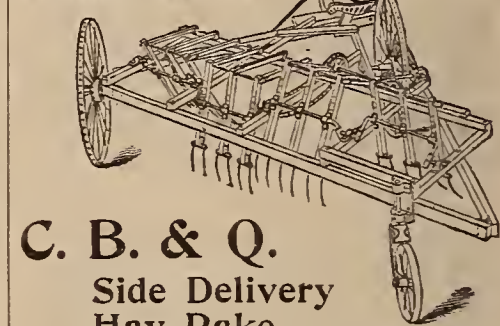
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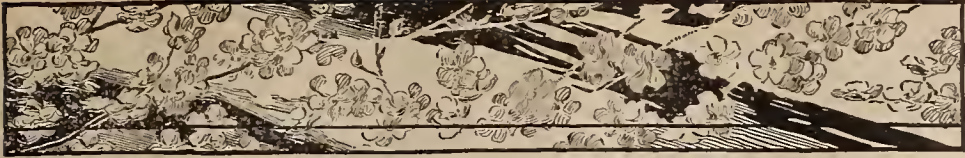
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A DEAD-SEA APPLE

By Virna Woods

Author of "The Amazons," "A Modern Magdalene," "Jason Hildreth's Identity," "An Elusive Lover," etc.



CHAPTER XIV.

IT SEEMED to Veva, lying in her own bed, with the scent of the orange-blossoms in the room, that years had passed instead of an hour. She felt as though she had always known that her lover was lost to her. The pain and palpitation of her heart had ceased; she wondered apathetically that she had not died. A bar of sunlight shone through the window and lay across her guitar, fastened in its case ready for the journey. She thought she would never want to play on it again. The house was still with an unnatural hush, but from the corral across the road she heard the tinkle of the cow-bells. They reminded her of that other day when she thought her lover was gone forever. But the past was so remote, it seemed to her now that it had all happened in another life.

The door opened softly and Bland came into the room. He had a little morocco-bound book in his hand, which he laid on the table as he passed over to the bed. Then he sank on his knees beside her and lifted her hand to his lips. She laid her free hand on his bowed head and gently caressed his hair. For a moment he remained silent, that he might feel the light touch of her fingers for the last time.

"You forgive me, Veva?" he said, brokenly, at last.

"There is nothing to forgive," she answered, softly. "It is right that you should go away and forget me, for you love—her."

Then he lifted his head and gazed straight into her tender eyes. Even in that moment of agony she noticed that the intangible look of suffering and despair had gone from his face. He seemed a nobler, freer man than she had ever beheld him before. But a great yearning lay upon his face.

"Love her!" he cried. "I have never loved her!"

"But you seemed—" began the girl, wonderingly.

"Ah, it was something else that made me rejoice to see her, even though it separated me from you. After awhile you will understand; but now—Veva, Veva, I love you!"

Again he bent over her hand and kissed it passionately.

"You must tell me what to do," he said, "what it is right for me to do."

She pressed his hand in silence.

"Years ago I deserted her," he went on, "but I thought she was dead. Now she is alone and in trouble; her father is dying or dead in San Francisco. And she thinks I love her. Shall I go with her, loving you, or shall I go alone to some strange place where I can live a life of penitence and regret? Tell me, darling, and it shall be as you say. I care little what happens now, since you are lost to me. I only want to do what you think is right."

For a moment the girl was silent. Her pale face had flushed, and even in her great sorrow she had thrilled with a sense of joy that he loved her still. In that supreme moment of recovered love what mattered the rest—suffering, separation and death? But in an instant the pain of parting smote her with increased bitterness. They had vowed fidelity with the marriage rite, and for her the promise was still as sacred as though in the eyes of the law the bonds had not been broken. She realized as never before the empty loneliness of the years that were to come, the blessed fullness of the life that she had missed, and though he loved her, nay, because he loved her, her heart throbbled in protesting pain that he must belong to another. But her voice did not falter as she answered the mute questioning of his eyes.

"You must go with her," she said, gently. "There is no other way."

He hid his face in her breast, and as she laid her arms about his neck tears dropped slowly from her eyes and glittered in his hair.

Then he lifted his head and spoke in passionate despair.

"I cannot go," he said, "until you have promised me one thing!"

Her eyes asked the question that her trembling lips could not frame.

"It is this," he went on; "that you will live; that I shall not be stabbed hourly with the thought of your death at my hands."

She smiled bravely in his face.

"Yes," she said, "I will live."

He felt that the time of parting had come. He looked down upon her, her fairness accentuated by the blue of her dressing-gown and the loose waves of soft brown hair that lay on the pillow; and she had never seemed so dear to him before.

"We must go to-day," he said. "But before I leave I want to give you this."

He had reached over to the table, and lifting the morocco-bound book, placed it in her hands.

"It is for no eyes but your own," he went on, "and when you have read it I want you to give it to the flames. You will learn in it the secret of my life. The reason I did not ask you sooner to be my wife. And only you, in all the world, will ever know the shadow that has followed me to the ends of the earth. When you have learned it

I can only hope that you will forgive and pity me, even if you can no longer love me."

"No longer love you?" she echoed, rising from her pillow and holding out her hands to him. "I shall love you always, in life and in death."

One moment he strained her to his heart and showered despairing, passionate kisses on her face. Then he laid her gently down and went with bowed head out of the room.

CHAPTER XV.

A stranger in Lupine Springs would have thought, from the crowd of people at the little station, that some celebration was in progress and an excursion about to start for the city; but it was only the villagers come out to see Theodore Bland and his wife get on the train.

Five minutes after the interruption of the wedding ceremony the strange news had penetrated every house in the town; and within five minutes



HE APPEARED AT THE DOOR WITH HIS WIFE ON HIS ARM

more the people were on the street. They waited eagerly for the appearance of the few guests who had been bidden to the wedding, and who lingered as long as a pretext remained.

"Veva is very bad with her heart," Mrs. Fellows confided to a group of women who stood at the post-office door. "I shouldn't wonder if it would kill her."

"I tell you what I think, hoys," her husband was saying to the men at the station, who had dropped their lounging attitudes and drawn around the speaker, "I think that man ought to be egged out of town."

A murmur of approval rose at the words. The bags of rice and the old shoes that had been made ready for the occasion were tossed aside, and a rush made for the post-office store.

"Give us your old eggs, Leonard," called Will Nelson, the brakeman, who had pushed himself to the front of the crowd.

"What for?" inquired the postmaster, mildly, scrutinizing him over his glasses.

"For Bland, the bigamist," shouted some one at the rear, with ready alliteration.

The cry was taken up and passed excitedly from mouth to mouth.

Soon the crowd had grown to include almost the entire male population of the town, a fringe of boys on the outskirts extending its proportions so that it reached across the street to the freight-sheds. Those at the head had provided themselves with eggs and potatoes from the store, regardless of the proprietor's protest, and were passing them on to their comrades.

"To the house, boys; let's call him out," shouted

the brakeman, swinging his grimy arms aloft, his hands full of the missiles.

The mob swung around and headed for the hotel, but a few of the better class of villagers dropped out at the rear. Among these was Dick Fellows, whose indignant remarks had instigated the excitement.

The ticket-agent came out from the station and planted himself in their path.

"Are you crazy, hoys!" he exclaimed. "Don't you know you'll kill Veva with your infernal noise! They're working over her yet, and can't tell whether she'll come to or not!"

At the same moment the minister came walking down the street. His fair face was aflame; his eyes blazed with scorn.

"What does this mean?" he cried, in a ringing voice. "Don't make fools of yourselves. I tell you, the man thought his wife was dead, and I left him in his room asking after Veva and crying like a child."

The minister certainly had nothing of which to complain, for the roll of hills he carried in his pocket as recompense for the interrupted ceremony far exceeded any wedding fee he had ever received before.

At his words the crowd wavered and fell back.

"He is going away on the two-o'clock train with his wife," continued the minister. "Let him go in peace, for he is earnestly trying to repair the wrong he has done."

"But Veva?" some one protested.

At the words there was an angry surge forward and signs of coalition in the scattering mob.

"Veva is the last person in the world to want

rear platform of the train; the engineer leaned far out of the window, and the few passengers were standing at the doors and on the steps of the cars.

Nelson, infuriated to indifference to consequences, had stopped opposite the door of the hotel, and with imprecations and insulting epithets, began calling for Bland. The crowd, spurred by his example, had commenced to yell derisively. Even the conductor, from his point of observation, shouted, "Go it, Nelson," in a hoarse voice that rose above the increasing clamor. Cartwright and a few others, who went among the men trying to quell the excitement, had been pushed back to the rear and forcibly ordered to make no interference. The tumult had lasted only a moment when Bland stepped out on the balcony. He folded his arms and quietly faced the mob.

"What do you want with me, boys?" he demanded.

There was an instant's silence; then the tumult began anew in indistinguishable yells and hisses and groans.

"Bring him down, boys; let's show him what we want," shouted Nelson, menacingly.

Beside him stood Bill Selleck, the stage-driver, viciously cracking his whip. The brakeman sprang to the door of the ground floor, but the next moment fell back with an oath. It had been holted from within.

As he retreated to the street, calling for a ladder, he glanced up and staggered back. Veva came running through the doorway overhead, her long hair streaming behind her, the loose folds of her blue robe fluttering in the wind. She stepped forward and stood by Bland's side. For one moment the two thrilled with the sense of nearness; then in the sudden silence Veva spoke.

"You have no cause to blame him," she said, in a sweet, penetrating voice. "I myself do not blame him in the least. He thought his wife was dead and that he was free to marry me. He has done me no wrong, and I beg of you to let him go in peace."

"He ought to 'a' knowed," growled Nelson, as she paused, and the crowd muttered an angry assent.

"You are my friends and neighbors," she went on, "and I understand that it is meant as an evidence of your regard for me that you are here now. But believe me, that you will be doing me a greater kindness if you will follow out my wishes. I have risen from my bed to come to you and to tell you with my own lips that Mr. Bland is innocent of any intention of wrong. It is time for the train to start. His wife" (she whitened, but her voice did not falter at the word) "left her father dying in San Francisco. For my sake do not delay them. Give me your word that you will let him go without trouble."

The crowd wavered and began irresolutely to fall back. Bland stepped to the edge of the veranda and looked calmly down on the upturned faces.

"Men," he said, quietly, "what she has told you is the truth. I have unintentionally done her a great wrong. I can only say that I shall never forgive myself, and do not wonder at your anger against me. For myself I ask nothing at your hands; but for the sake of the two women I have wronged I hope you will not delay my departure. It is time for the train to start, and I am going to make the attempt to take it. You will do as you see fit."

He turned away, but Veva caught his arm and clung to it.

"Will Nelson," she cried, leaning over the railing of the balcony, "promise me that you will let him go!"

For a moment the young man clenched his great hands, and a dark flush spread over his face.

"All right, Veva," he said, dropping his eyes. "I give you my word."

"And you, Mr. Selleck," she continued, turning to the stage-driver, "tell me you will let him alone."

"Tain't right, Veva," the man responded, surlily, "but I'll do it, as you say so."

With the defection of the leaders the crowd fell back and began to break into groups. Veva turned and passed through the doorway, Bland following. With a common impulse they paused for one moment, and their eyes met. He lifted her hand and pressed it to his lips, then turned without a word and went into his room.

A few minutes later, when he appeared at the door below with his wife on his arm, the people fell back on either side, making a path for them to the train. They ran the gauntlet, the man with proudly lifted head and clear, unflinching eyes, the woman casting about her malignant glances of mingled anger and contempt. Veva, locked in her room, heard the shrill whistle and the puffing of the engine as it rounded the curve beyond the house. Then she stumbled to the bed, and fell on her face.

An hour later Mrs. Parker tapped at the girl's door.

"Is that you, sister?" asked Veva.

"Yes," was the reply; "won't you let me in?"

"Not now, please," replied the girl. "I want to be alone. After awhile I will come down to you."

She had hatched her face and hound up her hair, and was sitting by the window with the morocco-bound book open on her knee. She listened until the sound of her sister's footsteps had retreated to the stairs. Then she began to read.

CHAPTER XVI.

On the first page of the manuscript was a note, which she had unfolded and spread out on the book. She lifted it in her hand, and as she read the letters swam and the words blurred before her eyes:

"MY LOST DARLING:—I might go from you without confession and leave you only to conjecture as to the strange circumstances that have led to the bitter loss of all our hopes and dreams. You would still love me and grieve for me; you would still believe in me as your ideal realized.

"But sweet as the thought is, I cannot bear to have it so. I feel it would be the act of a coward to hold your heart to the image you have formed when I can give you no recompense for your love and trust. And so I have decided to give you the story of my life, which I have written for you to read in case of an emergency, which now, thank God, will never come. I have added a few words at the close, the substance of which I have learned for the first time to-day. They will explain my ignorance of certain events upon which the history of my life has turned. When you have finished these pages I can only hope that you will pity and forgive. As for me, the dreams of my life are over; henceforth I can but strive after the right, and live to make atonement for the past. That you, who are innocent, should suffer is the thought that wrings my heart. That I can do nothing for you, for whom I would give my life, is the greatest punishment that I must bear."

The note was without signature. She kissed it and laid it between the leaves of the book. Then she began to read on the first page.

THE MANUSCRIPT

"I am writing these pages for you, beloved; but yet I hope that they will never meet your eyes. I should not have loved you, I should not marry you, with the terrible shadow that is over my life; and I swear to you that I would never have dared to link your sweet and innocent soul with mine had not the doctor warned me that otherwise your death would lie at my door. The thought of that was more than I could bear, and I can only hope that you will remain ignorant of the secret that should separate us forever. And yet I have a feeling, I would say a presentiment if I were inclined to superstition, that some time the dark page of the past will be opened to you. So I write this, as for the confessional, that when I am taken away from you, you may know that guilty though I may be in the sight of man, before God I am innocent of the intent of wrong. I cannot hope to prove my innocence to any judge or jury; but I know that you will believe me and understand, even though you loathe me in the end. It is with the hope of your pity and your pardon that I write these words in the lonely, haunted nights; and when you read them, God help you and pity you, for I shall be gone from you forever.

"My name was Leland Clifford. I was the second son of a small trader in the Ohio village of Middleton, and grew up with the restricted environment and the limited opportunities of the place. But my tastes were studious, and I early developed an ambition that roused the interest of the scholarly old rector and made him my voluntary tutor. He prepared me for college, and with his influence I secured work as tutor sufficient to defray the expenses of my education. I had already chosen law as my profession, intending to study for the bar when I had finished the regular classical course. It was in my third collegiate year that the events occurred that changed the entire direction of my life.

"I remember well how light-hearted and free from care I was that fatal night of the seminary dance. It was the annual party given by the girls of the seminary to the college students, under the management and espionage of the seminary teachers, who invited the professors and their wives to sit out dances with them. It was just after the midwinter holidays, and the time-honored function had frequently served in past years as the starting-point of flirtations that lasted throughout the term and occasionally resulted in matrimony. Nothing was farther from my mind than any serious entanglement, for I knew I had only myself to look to for future success; but I did not in the least object to the 'jolly good time,' as the boys phrased it, that we were sure to have that evening.

"The 'fun' was at its height when I chanced to see our professor of sciences, who had some time ago buried his second wife, sitting beside the French seminary teacher, demonstrating something with the aid of a diagram he had drawn on a dance program. I smiled and was about to pass on to ask a pretty girl in blue for a waltz, when I noticed a forlorn little figure trying to shrink out of sight in the corner of one of the long recitation-benches that were arranged around the walls. The face was thin and sallow, but the features were delicate; and in the eyes was a wistful, timid look that smote me with a sudden sense of pity.

"It's hard lines for a girl to have to sit like that and wait for some one to ask her to dance, I thought to myself.

"I looked across the room at my lady in blue. Two of the boys were beside her, one scribbling on her program and the other offering her his arm for the waltz, which had just begun. I stopped and bowed to the girl I was about to pass.

"Miss Babcock, I believe, I said; for I remembered that I had once been introduced to her on the college campus, when the girls had come over to watch a ball-game.

"She looked up with a sudden hope flushing her face. The next moment we were gliding over the floor in an ecstasy of rhythmic motion, for I found to my relief that she was a perfect dancer. How she had ever learned so well with the little practice she must have had has always remained a mystery to me. But it was her one accomplishment, and it determined her destiny.

"When I led her back to her seat I possessed myself of her program, which she was very shy of letting me see. I understood when I looked at it, for it was perfectly blank. I wrote my name for as many dances as I dared, and returned it to

her. I was determined she should have one good night, and I went off in search of partners for her. One after another made excuses, although I insisted that she was a better dancer than many of the more popular girls. There were only two that I finally succeeded in taking to her. But I never forgot the look of gratitude she gave me when she said good-night and added that she had had 'such a lovely time.'

"The boys chaffed me about her, especially when they found I had been invited to her house to dinner. She was a day pupil at the seminary, and lived at home, her father having a large art store in the town; and thus she was free from the rules that governed the most of the seminary girls about receiving visitors.

"I could do no less than call after accepting the hospitality of her people; and after that they loaded me with kindness and embarrassed me with invitations. The most of these I accepted, partly from the difficulty of evading them and partly out of genuine pity for the girl. The father was very fond of her and was eager for her happiness, but the stepmother, I fancied, was not good to her. The girl herself was so happy and so openly grateful for my attentions that it touched my sympathies at the same time that it pleased my vanity. Even now I cannot tell just how it happened; but I know that before the term closed we were engaged. I remember that her stepmother asked me my intentions; and her father subsequently interviewed me, telling me flatly that I had gained his daughter's heart and had no right to throw it away. When I protested that I was unable to support a wife, he promptly offered me a partnership in his business and the use of a cottage situated several blocks from his own home. But to this I would not submit, compromising with an engagement, with the understanding that the marriage was to be deferred until I had graduated and finished my law course.

"It was Ella herself who managed the rest of the scheme; for such I now believe it to have been. Often she confided to me with tears the bitter experiences of her home life; the unreasonable exactions of her stepmother, and the petty jealousies of her stepsister, who was two years younger than herself.

"I shared with a fellow-student a modest little room on the second floor of a house not far from the college. It was one evening when I chanced to be alone that I heard a hesitating tap at my door, and opening it I saw Ella standing in the hall. As I drew back in astonishment she rushed into the room, and throwing her arms about my neck, burst into tears.

"'I can never, never go back,' she sobbed, as I strove in vain to quiet her.

"I had shut and locked the door, apprehensive of the return of Collins, who was more than likely to bring three or four students with him.

"'Hush, dear,' I said, nervously; 'you must let me take you home at once.'

"I had turned cold at thought of the construction the boys would inevitably put upon the visit if it should be discovered; but that view of the case apparently did not suggest itself to the girl. She only clung the tighter about my neck and continued her violent weeping.

"'I will not go,' she said, sobbing between the words, 'until you promise to take me away from that cruel woman. I cannot live four years more under the same roof with her.'

"I heard a step on the sidewalk below and a light-hearted laugh floated up to the window. The sounds passed by, but for a moment my heart had stood still with dread.

"'I will promise anything, Ella,' I said, desperately, 'if you will only get away from here at once.'

"Then she began to kiss me and call me by endearing names.

"'I knew you would do it for me,' she said, triumphantly.

"'Do what?' I asked, uncertainly.

"'Why, marry me now,' she said, 'and go into partnership with father.'

"'Come,' I said, disengaging her arms from my neck and putting on my hat; 'we will talk it over when we get home.'

"'But you will promise me,' she cried, in renewed alarm, throwing herself before the door, 'you will promise to marry me soon, before the end of the term! She said you would not marry me at all; that before the four years were over you would break off the engagement.'

"She had commenced to cry again.

"'Nonsense, Ella,' I said, impatiently; 'of course I will marry you. Haven't I told you so often enough?'

"At this moment there was an imperative rap at the door. I looked about in despair; then, seizing the girl hurriedly by the arm, I drew her across the room and pushed her behind the portieres that curtained off an alcove. I reentered the room and opened the door. Mr. Babcock stood there, his near-sighted eyes flashing through his glasses, the white lock that shone in his dark hair falling in over his forehead.

"'Give me my daughter,' he said, advancing into the room and closing the door behind him.

"Ella sprang from behind the curtains and ran into his arms. He drew her to him and turned on me fiercely.

"'I heard you just now promise to marry my daughter,' he said; 'you will fulfill that promise within the next week or I will have you expelled from college.'

"'But good heavens, Mr. Babcock,' I protested, with an odd feeling that I was in a terrible dream and would surely awake in a moment, 'you certainly cannot think—'

"'I want no explanations, sir,' he thundered, 'I want to know nothing beyond this; you have compromised my daughter by having her come to your room, and you will marry her without delay or take the consequences. If you marry her I will



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make you a partner in my business and give her a deed to the cottage I promised you. If you refuse to marry her at once I shall see that you are sent home in disgrace and that your family are acquainted with your conduct.'

"I saw it was useless to reason with him in his present state of excitement; and I momentarily expected the boys.

"'Come,' I said, leading the way to the door; 'we will go up to the house and talk it over.'

"We had not gone half a block when we met Collins and Maitland going up to our lodgings. Ella had drawn her veil over her face, but bowed to them as they passed. She was clinging to my arm, her father walking beside her. We went on to the house in silence. Mrs. Babcock greeted me with a cold bow and followed us into the room.

"It is not necessary for me to go over the painful scene of that night. It was in vain that I explained the circumstances and tried to extricate myself from my position. I might have held out against the quiet determination of Mr. Babcock and the shrill upbraidings of his wife; but the shame and distress of the girl when she understood at last the impropriety of her visit to my room was more than I could bear. As she stood by the window with averted face, her shoulders moving now and then with a suppressed sob, a rush of pity seized me, and I went over to her and took her in my arms and promised her all that she wished.

"The next week we were married. It was bitterly hard to give up the plans I had cherished from my boyhood, and to change so abruptly the entire course of my life; but I saw that however unfairly I had been treated, my wife really loved me; and I determined to make her happy and to do my best in shaping my life anew. God knows that I tried to fulfill the resolve, and that my terrible failure was not the result of intentional neglect or wrong.

CHAPTER XVII.

"We went at once to housekeeping, and for awhile Ella, busying herself about her household duties, was as interested and happy as a child with a new set of toys. But even at the first I noticed a tendency to irritability that daily increased until I began to fear for my future peace. It was not that she did not love me, but that in daily intercourse she could not keep up the semblance of amiability with which she had blinded me before marriage. Often I was touched by some added kindness to me in the way of a dainty dish or a little gift after she had been unusually pertinacious in fault-finding; and more than once she broke down in the midst of a torrent of reproach and protested with tears that she did not intend to be so cross. I thought by patience and unflinching kindness I might overcome her fault, and I put a check upon my own lips that frequently cost me a severe effort of will.

"Soon after our marriage I tried to interest her in books, thinking to spend many pleasant evenings in reading aloud and in talking over current literature and the topics of the day; but she was so unresponsive that before long I gave it up. Then I brought home tickets for theaters and concerts; but as she cared for nothing but the most rapid and sensational of these, it was soon appar-

ent that we could not enjoy each other's society in this way. In vain I sought for a common ground of interest; gossip and dress, aside from her unreasoning love for me, were the largest thoughts of her life.

"Meantime I had found an unexpected source of pleasure in my hours at the store, where I had been promptly initiated into the mysteries of trade. Although not facile with pencil or brush, I had a student's acquaintance with art subjects and possessed a critical taste, so that it was not long before most of the purchasing business fell into my hands. In this way it happened that I went to Europe to visit the art centers and bring back the latest ideas, together with a lot of goods purchased in person. I would have taken my wife with me, but she had a nervous dread of the sea-voyage; and as I was to be absent only eight weeks, she preferred to stay with her father until my return. Although several times she had stayed at home for two or three days on the occasions of my business trips to the city, I was a little surprised at her willingness to remain so long with her stepmother; but she assured me with a laugh that their relations were entirely changed now that she was unmarried. It began slowly to penetrate my mind that in the past she might not have suffered so much at the hands of Mrs. Babcock as I had thought, and that possibly that lady had deserved my sympathy as much as the girl. But I put aside the unwelcome thought, as my wife clung to me with kisses and tears the day I said good-by.

"The three objective points of my trip were Dresden, Paris and Florence, and in those cities I spent the most of my limited time. I look back now upon those days as the last happy period of my life. The only drawback to the perfect enjoyment of my holiday was an uneasy sense of relief at being away from my wife. The shallowness of her mind and the petty faults of her disposition had tired and irritated me to an extent I did not realize until I was free from them. But even now I cannot bear to speak of her unkindly, although I must explain the sequence of events in order that their culmination may be understood. I would gladly have extended my trip beyond the prescribed time, but my business was finished and the very desire to defer my return hurried me back with a sense of guilt.

"My wife met me with demonstrations of affection, and kissed me again and again for the little gifts I had brought her. I was ashamed and troubled that her caresses wearied me and filled me with vague regrets for sweet possibilities of which I might no longer dream. Perhaps she felt in some subtle way the coldness under the kisses I returned to her. However that may be, I had not been home more than half an hour when she discovered that I had taken a slight cold on the sea-voyage, and she broke into her usual stream of sarcastic reproach. When she had exhausted herself on that subject she began picking up the things I had laid down on my arrival and putting them away, all the time complaining of my carelessness and disregard for her. When I attempted to take them from her hands and find the proper places for them, she told me irritably to let her alone, that I would only make more work for her, and already she had too much to do.

But the storm broke that evening when I unpacked a few cherished pictures and small Italian uarbles I had brought for our own home, hoping that she would be surprised and pleased. I felt that I could well afford the inconsiderable expense, for I knew that our business was steadily increasing; but she denounced them as extravagant, and insisted that I should put them in the store for sale.

"As though you had not spent enough," she said, "running over Europe for two months, while I was at home sewing to save the expense of a dressmaker."

"But, my dear girl," I protested, "you know I wanted to take you to Europe, and I never approved of you doing your own sewing."

"Disregarding my remark, she turned to a new grievance.

"Of course you will say it was a business trip; but it was not necessary for you to go to operas and the theaters and to ride in gondolas at Venice. And Mrs. Bryant, our new neighbor next door, has a lovely new green organdy dress; and I want one like it, but I suppose you will think I ought not to have it."

"Of course you may have it, Ella," I answered, half amused and half surprised at the cause of her complaint; "but surely you could not prefer it to the black lace I brought from Florence."

"I didn't want the black lace from Florence," she replied, irritably. "You know black is not becoming to me. I shall give it to mama."

"She got the green organdy, and half of my private art treasures went into the store; but I retained a statuette of the Venus of Milo, a collection of photographs, and some carbons from Munich; and these were a source of never-ending dissertations on my extravagance and selfishness. Often she taunted me with the remark that I owed everything that I possessed to her father, my income and the very house I lived in. When I tried to soothe her or reason with her it only prolonged her reproaches; when I did not reply to her it enraged her to still greater outbursts of fury.

"As time went on things grew steadily worse. I remember there was a succession of incompetent servant girls, who invariably quarreled with their mistress, and left her without warning. Then would follow an interregnum, during which the house was in more than its usual confusion and the meals were irregular and unsatisfactory. On these occasions my wife was a veritable Katherine or Xanthippe; but unfortunately I was neither a Petruccio nor a Socrates. I can honestly say, however, looking back upon it all, that I never gave her a harsh word; but the effort the control cost me was so great that it precipitated the end.

"We had been married about a year when I began to be tortured with what Howells has called a recurrent dream. In this way my strained nerves found the vent I would not permit them in my waking hours. The dream, which came at irregular intervals of several weeks, was always substantially the same. For some trifling thing my wife would begin a tirade of reproach and abuse. I listened in silence, but with a rage that exceeded any anger I ever felt outside of dreams. As she went on my suppressed fury increased to such madness that at last I rushed from her, longing to strike her down before my eyes. In those moments I hated her with a bitterness that I never felt toward her in my waking hours. Often have I awaked trembling, with drops of anguish standing on my brow, and felt out in the darkness to assure myself that my wife was lying safe at my side, and that I had not struck her in my unreasoning madness. Often with remorseful tenderness have I drawn her into my arms and awakened her with kisses. Then she would murmur happily, 'You do love me, even if I am cross and ugly, don't you, dear?' And I would stop her speech with kisses that satisfied her more than words.

"So our life went on until one terrible night that is burned into my brain, never to be atoned for, never to be forgotten. The cursed memory of it has followed me over lands and seas; it pursues me in my dreams, and even now it casts a shadow over my life that not all your love can lift."

[TO BE CONTINUED]

SAMOAN PECULIARITIES

Apia is located on the considerable island of Upolu. It is bounded on one side by the singing sands of the harbor, white as the back of a girl's hand. The dust-scouring trade-winds blow interminably, roaring through the palms. On the landward side a couple of insignificant rivers—the Mulivai and Vaisingano—form, with the Pacific ocean, a three-sided foss around the zone of trouble. For the rest, there are some ravines and a great mob of childlike, bloody-minded, naive, scandal-mongering, clean-colored natives of engaging manners and unpronounceable names, to whom fighting and gossip and head-getting is the breath of their nostrils. The islands lie to the westing and south'ard of San Francisco, and can be reached by a fast yacht—presupposing that the owner had no possible business elsewhere in the wide world—in a matter of a dozen or so days. On arriving, the yachtmaster will find just whom Robert Louis Stevenson found when he turned his dark and kindly face islandward—"contemporaries of our tattooed ancestors, who drove their chariots on the wrong side of the Roman wall." Very likely these contemporaries will, for the most part, be found surf-bathing and fishing.

The inhabitants are Christians, church-goers, singers of hymns, hardy cricketers, but without perchance by reason of the acquired veneer of civilization) children of nature and head-hunters, devoted to fetich worship and biased politically by legerdemain. One who can juggle a dollar in Apia is esteemed a god. Hermann, had he but known it, missed a chieftainship; Hondu, a principality; Robertson—had he performed his watch and fish trick over the side of a war canoe, as he

performed it over the bulwarks of the Czar's yacht—would have been presented with a kingdom and a surfeit of worship.

The islanders are eager followers after false gods, but they are not lacking in shrewdness; they require the high priests of those gods to be possessed of a fine order of manual dexterity. In ordinary life, when not engaged in the "speak-house" (a sort of Samoan house of representatives), or being, to their own huge delight, flayed alive by European copra merchants, the natives while away idle hours retailing gossip and scandal with their neighbors. In times not far back they made holiday parties hunting heads.—Francis Carthew, in Collier's Weekly.

RULES IN CASE OF CITY FIRES

Chief Bonner, of the New York fire department, has issued some rules in regard to the best course to be pursued by persons in hotels when an alarm of fire is given. Of course, they rest upon long experience. They suggest plans of action that would not readily occur to those who had given no special thought to the subject, and this probably includes a majority of people. The chief advises a guest who is suddenly alarmed by fire in a hotel to keep his door closed and to be careful that the transom also is shut. Then go as quickly as possible to the outside means of escape. Of course, this presumes an acquaintance with the location of fire-escapes, and this knowledge ought to be obtained as soon as a room is assigned. Safety requires an inspection of the hallways and stairways. Fire-escapes should be so clearly located that they could be found in the dark. It may be necessary to try the halls. In that case it is best to stoop low to escape the smoke and heat, and the person descending the staircase should move near the wall.

A rope in a room is considered good enough by Chief Bonner if a person knows how to take a half turn around the leg and slide down slowly, using the foot as a brake. He advises against any attempt to go down hand under hand. The person on the rope should not look down lest dizziness ensue. If the flames are advanced and no escape possible the best plan is to hang from the window-sill and wait for the firemen. When the door and transom of the room are closed the chance of rescue are good if the strength holds out. The chief says in conclusion that it takes a swift fire to beat the race of firemen to rescue any person hanging from the window-sill. Nevertheless, his remarks emphasize the desire for fire-proof buildings and an abundance of fire-escapes, easy of access and easy to descend.

OCEAN MONSTERS

The Oceanic, recently launched at Belfast, is the highest vessel afloat. The first steamer that crossed the Atlantic was the Savannah. Her displacement was three hundred and fifty tons. The voyage was effected in twenty-six days and the ship herself was regarded as a wonder. That, is eighty years ago. Forty years later the wonder of the Savannah was lost in the marvel of the Great Eastern. Like the Savannah, the Great Eastern was a paddle-wheeler. Subsequently came the Persia. The old packets which took forever to cross the ocean vanished. For the rich and opulent there was the opportunity to go to Europe in less than two weeks. Twenty-five years ago ten days was a fast trip. The first to do better was the Serbia. Then from their kennels one after the other the greyhounds emerged. Last year came the Kaiser Wilhelm, with a speed of twenty-three knots and a displacement of twenty thousand tons. In a recent announcement it was stated that if this ship were set on her stern at the side of the twenty-seven-story St. Paul building on Broadway she would be more than twice as high.—Edgar Saltns, in Collier's Weekly.

FIFTY MILLION STITCHES IN A CARPET

Queen Victoria is the owner of one of the most remarkable articles ever made in prison, says the "New York Mail and Express."

The superintendent of Agra Gaol, in India, two years ago received an order to weave a carpet of special design for Her Majesty. Twenty-eight of the deftest convicts of the establishment were put to work on it. The carpet measures seventy-seven by forty feet, and it is estimated to contain no fewer than 50,000,000 stitches.

"PAPA, WHAT WOULD YOU TAKE FOR ME?"

She was ready to sleep, and she lay on my arm
In her little frilled cap so fine,
With her golden hair falling out at the edge,
Like a circle of noon sunshine,
And I humm'd of the old time of "Banbury Cross,"
And "Three Men Who Put Out to Sea,"
When she sleepily said, as she closed her blue eyes,
"Papa, what would you take for me?"

And I answered, "A dollar, dear little heart,"
And she slept, baby weary with play,
But I held her warm in my love-strong arms,
And I rocked her and rocked away.
Oh, the dollar meant all the world to me—
The land and the sea and the sky,
The lowest depth of the lowest place,
The highest of all that's high!

All the cities, with streets and palaces,
With their people and stores of art,
I would not take for one low, soft throb
Of my little one's loving heart.
Nor all of the gold that was ever found
In the busy wealth-finding past
Would I take for one smile of my darling's face,
Did I know it must be the last.

So I rocked my baby and rocked away,
And I felt such a sweet content,
For the words of the song expressed more to me
Than they ever before had meant.
And the night crept on, and I slept and dreamed
Of things far too gladsome to be,
And I waken'd with lips saying close in my ear,
"Papa, what would you take for me?"

—Eugene Field.

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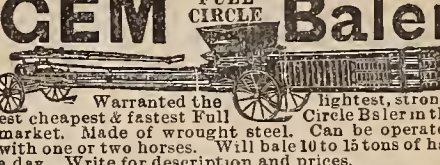
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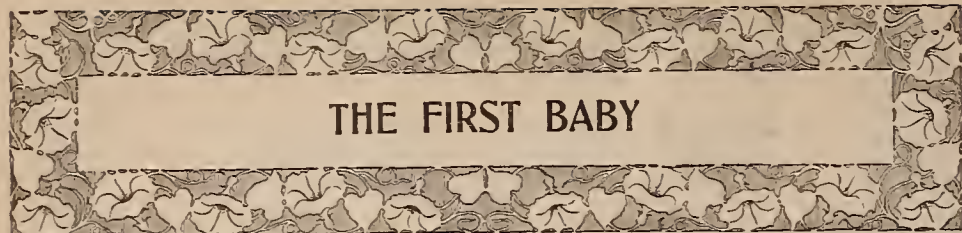
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THE FIRST BABY



IF EVER a woman feels the responsibilities of life it is when her first baby is laid in her arms. In many cases she has never even seen so young a baby, and knows almost nothing of its needs or how to care for it. If a wise nurse is in charge, the young mother, helped by her great love for the helpless little life that has been given to her, may learn much in a few weeks, but when nurse has gone, and the whole responsibility rests on her, she will often feel almost discouraged at her own ignorance.

Food, comfortable clothing, quiet and rest are the imperative needs of the first months of baby's life. Of course, you are proud of your baby, and too often, instead of being kept as quiet as possible, it is put on exhibition to all admiring relations and friends from almost the day of its birth.

It is talked to, handed about from one to another, tossed up and down, sometimes even awakened from sleep to show the color of its eyes, and when a few weeks old it is shown bright colors or lights to make it "notice," and many devices used to make it laugh. This is all decidedly wrong. An infant should be kept from all excitement, allowed to sleep whenever and as long as it will, and only taken up long enough to attend to its needs. I know what a dear delight it is to a young mother to hold and "cuddle" her baby, but be patient, let it have the needed rest and quiet for the first few months of its life; by and by it will not need so much sleep, but even then do not be in haste to force the brain to action.

Babies should have a little bed of their own and not sleep with the mother. Set the crib by the side of your bed, so you can attend to its wants without leaving your bed. See that it is protected from drafts of air, but do not cover the baby's face. A hair mattress, with a soft, folded blanket over it, makes the best bed for baby. Cotton sheets are better than linen, and soft blankets are the best covers. Do not put a pillow under baby's head: he is better off without it.

The mother who nurses her baby must observe great care in her own diet, eating good, nourishing food, but avoiding everything which might derange her own digestion and so cause the baby discomfort and illness. She should also avoid undue excitement, overwork or overheating, all of which are sources of danger to the child. Until a baby has teeth it should be given no food

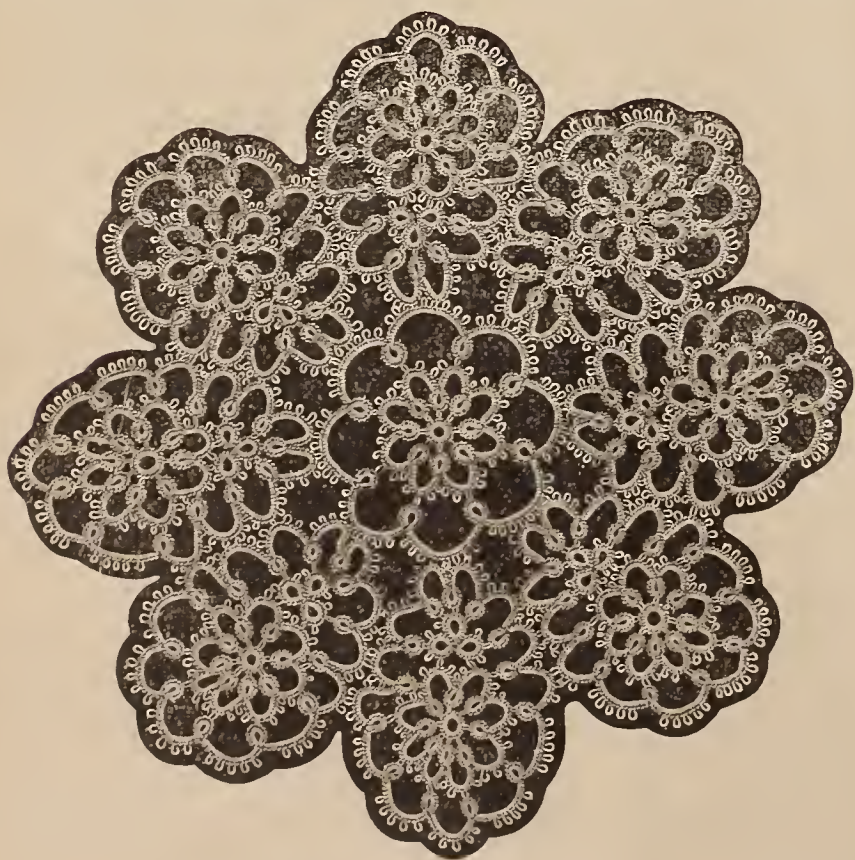
of milk. No starchy food should be given before a baby is nine months old at least, and I have known children even a year old who were injured by it. Many mothers take their babies to the table and give them potato, bread and gravy, etc., when they are only three or four months old, but this is not safe. Do not neglect to give baby a drink of cool water every day—a teaspoonful or two. Babies often suffer from thirst.

As early as possible accustom the baby to regular habits in regard to its food, sleep and bathing. Never give a baby his bath directly after nursing. Be sure the room is warm and the water at the right temperature before you undress him, and then do not allow any doors to be opened that will cause a cool draft of air. A quick bath is best, and have a warm bath-blanket ready to wrap around the baby when you lift him from the bath, keeping him covered while drying with a soft towel. Only the purest powders and soaps should be used. Lycopodium powder is very healing, but will sometimes leave a stain on the clothing. Boracic powder is also excellent where the skin is chafed. A good powder for common use may be made by mixing finely powdered pure starch and finely powdered boracic acid, equal parts. This will usually prevent any chafing. Make the process of dressing after the bath as speedy as possible by having the clothes slipped inside each other so they may be put on at once. Of course, you will have baby's clothes made by the improved patterns, with no tight bands and no pinning.

It is surprising how early a baby may be taught cleanly habits. A little mother visited me last summer with her three-months-old baby. Of course, baby was too young to sit on a chair, but she was set on a china cuspidor, and was already so trained that she very seldom soiled a diaper. If a baby is well and regular in all other habits it may soon become so regular in its bodily habits that a little care and forethought on the part of mother will save much work.

Babies, like plants, need fresh air and sunshine during all seasons. In the summer-time let them live as much as possible out of doors. Until five or six weeks' old they should be carried in the arms; after that the carriage may be used, but see that it has easy springs and that baby is always protected from wind and its eyes shielded from the sunlight.

A hammock hung in a sheltered shady nook will sometimes give baby a good nap out of doors, but I think a cool, partially darkened



except its mother's milk, unless the supply fails; in that case give sterilized cows' milk or some one of the prepared foods that agrees with it best. Do not experiment unnecessarily with baby's diet. A very good substitute for mother's milk, until a baby is seven or eight months old, is sterilized cows' milk diluted with about one sixth lime-water and sweetened with sugar

room is the best place for this. Nothing in our lives is of so much importance as the care of our children. For this reason, if part of our duties must be delegated to hired hands, let it be other than the care of our children. Let us not trust their precious lives in the care of those who may, by their ignorance or carelessness, cause irreparable mischief.

MAIDA McL.

TATTED DOILY

ABBREVIATIONS.—D, double; p, picot.

Make a ring of 8 p separated by 2 d, close; tie, and cut the thread. Around this ring make a row of rings and chains alternately. Make rings of 6 d, join to center ring, 6 d, close. Make the chains of 2 d, 5 p with 2 d between each, 2 d, repeat. To this wheel join a clover-leaf, each ring of 4 d, 5 p with 2 d between each, 4 d. Around the wheel and clover-leaf make thirteen rings and chains. The rings are made like in the wheel, the chains thus: 4 d, 5 p with 2 d between each, 4 d. Join the rings as seen in the illustration. Make eight of these figures, join these at each side at 3 chains, leaving 5 chains on the outside and 2 chains on the

one of your friends who is too practical ever to buy any for herself. She may look askance at them at first, when your back is turned, but as soon as she has tried them (which she will undoubtedly do, being practical enough to use what is given her) she will mentally, and possibly verbally, say that besides making her a Christmas present you have in reality performed an act of charity. EMMA LOUISE HAUCK ROWE.

2.

DOILY WITH TATTING AND LACE-STITCH BORDER

ABBREVIATIONS.—D, double; p, picot.

This doily measures six and one half inches in diameter. No. 60 Glasgow lace



inside free. The center wheel is made like figure wheel up to the second row of rings and chains. Make these rings of 8 d, join to preceding row of chains, 8 d, close. Make chains of 5 d, 3 p with 2 d between each, 2 d, join to the fourth picot of figure chain, 2 d, 1 p, 2 d, join to second picot of next chain on same figure; 2 d, 3 p separated by 2 d, 5 d, repeat.

Mrs. J. R. MACKINTOSH.

2.

THE LUXURY OF PILLOWS, CUSHIONS, ETC.

"What a charming room!" she said. "So elegant and yet so luxurious!"

She was looking at a picture of the drawing-room of two New York "women bachelors." Its most prominent feature, even noticeable above the elegance of the furniture, bric-a-brac, candelabra, etc., was the appearance of comfort, luxury and ease, which was due almost solely to delightfully soft and inviting-looking cushions—not one or two only, but at least a dozen of various sizes and shapes.

A deep alcove on one side of the room had been fitted up as a veritable cozy corner, where everything suggested rest and comfort. A beautiful divan, with long, narrow cushions, short, square cushions, presumably sweet-scented head-rests, and as dainty foot-rests beckoned invitingly and added much to the attractiveness of the room.

Cushions, head-rests, etc., are luxuries. By this I do not intend to infer that they are beyond the means of the average home, but that while there may be sufficient money to spare, it is used not for the restful cushions, but for things less needed, less enjoyed, but more practical. Any one who has once experienced the comforts of cushions galore will always contrive in some way or other to have them around, even at the expense of a personal sacrifice in some other direction. They rest the tired frame, and hence the tired mind; they are pretty and cozy-looking, and in contrast to the more conventional furniture are a relief to the weary eyes.

At Christmas-time every one is thinking of something to buy—something that will not conflict with the gift of somebody else—and few are the individuals who ever think of cushions as gifts. There are many beautiful creations in hand-painted gauze, silk or satin; there are lovely cushions of velvet, corduroy and velveteen, and still pretty ones in denim, silkoline, cretonne and the hundred and one fancy, inexpensive materials made expressly for such purpose.

Give a couple of these as a gift to some

thread was used for the tating, No. 100 for the lace-stitch. Make the large rings of the wheels with 5 d, then 5 p separated by 2 d, 5 d, close the ring. Leave one eighth of an inch of thread; make small rings with 2 d, then 3 p with 2 d between each, 2 d, close. After the twentieth large and small rings are made join them to the first ones. Join the wheels at each side by three rings, leaving nine on the outside and five on the inside unjoined. Make a small hoop and baste each wheel into it, then fill each wheel with lace-stitches. Baste the wheels onto a circle of linen, and with linen floss buttonhole-stitch around the inner edge.

Mrs. J. R. MACKINTOSH.

2.

THE CARE OF THE CHURN

"Do you ever have any trouble keeping the churn sweet?" inquired Mrs. Green of Mrs. Carpenter; "the fact is, mine sometimes gets to smelling strong or 'cheesy,' and it is almost impossible to get it sweet again. What do you do when yours gets 'strong?'"

"Mine never gets in that condition, but if it did I think I would scald it thoroughly in strong soda-water and give it a day's outing in the sun. I never allow my cream to remain in my churn any longer than the time I am churning it. And I always scald it before putting the cream in, then cooling it, of course, with cold water.

"One thing I am very particular about," she continued, "is to rinse my churn thoroughly two or three times in cold water, to remove every particle of buttermilk, before pouring in the scalding water. Anything that has contained milk, whether sweet or sour, should be treated in the same manner, as the boiling water cooks the milk, causing it to adhere to the sides of the vessel. But to return to the churn. After the butter has been removed the churn is rinsed with cool water, hot water is put in and the churn revolved rapidly for a few moments before being drawn off. I then wipe the fixtures and outside with a clean cloth, and hook it, uncovered, bottom side upward. My churn has galvanized castings, as salt soon rusts any other kind. I am also very careful to brush the cork of the cover around the edge, that no particles may be left thereon. Once in a great while a whitish coating is seen on the castings; this I remove with a thin-bladed knife, and renew my diligence. My churn has been in use for years, and I expect it to do duty for many more in the future."

E. B. SIMMONS.

BREAD MAKING AND BAKING

No other article of diet enters so largely into the every-day, every-meal bill of fare as does bread. For one never grows tired of perfectly made bread.

Housekeepers deficient in this housewifely art are many. Yet there has been marked improvement in this as in other things in the past few years, and I believe much of the improvement is due to the wide dissemination of papers and journals and magazines.

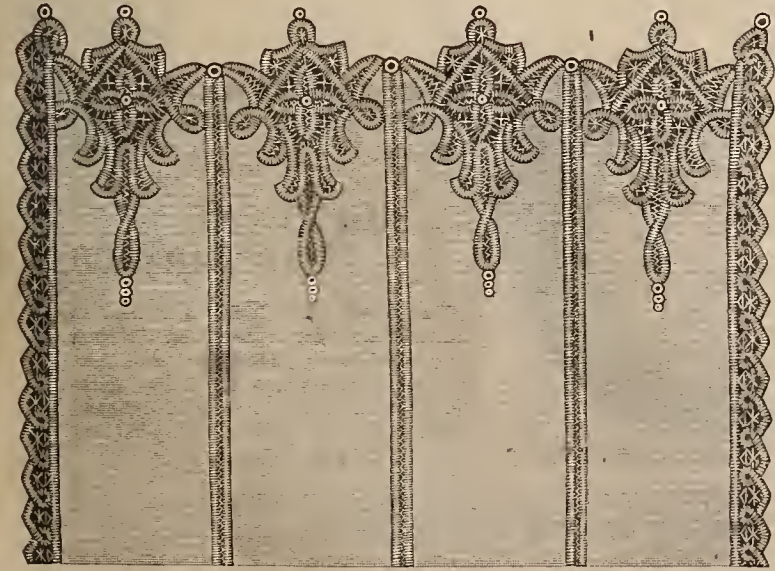
Quantity rather than quality does not enter quite so largely into the farmers' calculations as once it did when purchasing flour and general household supplies.

An occasional careless and indifferent housewife will make waste of the best of supplies. But she may be taught to be content with nothing less than the best quality of bread that can be made.

A double baker is to be desired for bread-making, and the double roasting-pan, or "dripper," may be made to serve this double purpose.

To secure this quick rising of bread perfect yeast must be had. Soft, home-made yeast is a trial and a burden to the housewife, and its making is entirely unnecessary.

the sponge should be resupplied by forming it into a solid loaf, when it is to be again left to expand and rise. A thorough kneading at this period adds much to the quality of the bread.



It is occasionally claimed that a second rising of dough is not to be advocated or desired.

But I think it is. Bread is always nicer for the second rising, provided it has been given prompt attention all through. It is then molded into loaves, and small loaves, though side by side in the baking-pan, are invariably lighter and flakier than if formed into larger ones.

The right temperature of the oven for baking bread to perfection must be learned by experience, and this every daughter should learn at home, with mother as her counselor and guide.

A double baker is to be desired for bread-making, and the double roasting-pan, or "dripper," may be made to serve this double purpose.

ELLA HOUGHTON.

THE SPICE OF LIFE

"Good land!" exclaimed Mrs. Lawson, as her neighbor dropped down by the table where she was peeling potatoes.

"I manage it by using my brains," replied Mrs. Hayes, with a cheerful laugh.

"I don't see what that's got to do with it. Brains won't make oysters out of sausage, nor give you lamb-chops when you're sick of fried ham."

"Well, now, take potatoes, for instance; how do you fix 'em?"

"Mashed or fried till we don't want to look at the dish when it comes on the table."

"Just there is where brains must do the work," earnestly rejoined Mrs. Hayes. "Instead of slicing those so thin, cut them in strips lengthwise, and then drop in smoking fat. They fry quickly, and garnished with parsley, dusted with salt and pepper, they seem several removes from every-day fried potatoes.

You can cream them for breakfast; roast them in the oven another morning; mash them for dinner, with plenty of cream, a beaten egg added if wished, and heaped on a dish, which must be set in the oven till they are brown.

Take that same mixture—using very little cream this time—and shape in small pyramids by the aid of a cup, sprinkle fine bread-crumbs moistened with melted butter over them, place on a greased plate, and bake a nice brown. Or—

"Hold on," cried Mrs. Lawson, "I'll get a pencil and write the rest down."

"A good way is sometimes to boil them in their jackets, skin, and chop into small bits. Put some ham essence in a frying-pan, pour in the potatoes and a little minced onion; season to taste with salt, pepper and vinegar. Celery-seed may be used in place of

the onion. Have you ever baked cold boiled potatoes with grated cheese?"

"No, never."

"They're almost the equal of macaroni with cheese. Then there's potato soup, and potato pie, and potato croquettes, and—"

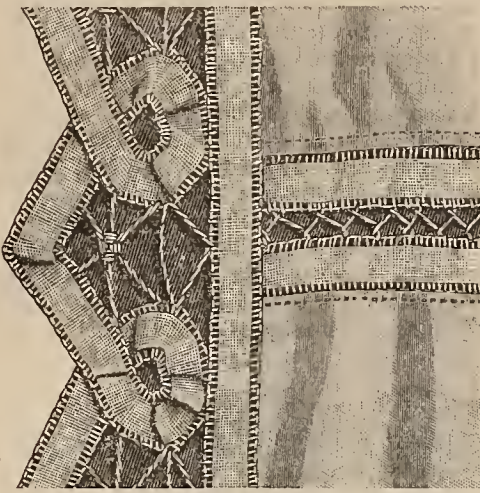
"Here's John, and mine not yet on to cook!" springing up in a great hurry.

Mrs. Hayes laughingly called back, as she went out the door, "Hereafter remember the old saw, 'Variety is the spice of life,' and always wear your thinking-cap in the kitchen."

MARY M. WILLARD.

WINDOWS

As I walk along the street I involuntarily take in the windows I pass. I admire prettily arranged windows. The draperies need not be of the expensive order, but all the



front of one's house should be in harmony and the curtains clean. It is a mute indication of the dwellers within, and one can almost always be sure of the woman of the house by the condition of her curtains.

Some people are set in their way of putting up clean curtains only at certain seasons of the year. The only way to do is to put up clean ones as soon as those up are soiled so as to look grimy.

Some like the individuality of made curtains, and the illustration gives a very pretty pattern in effect, or some sash-curtains made from fine scrim and Battenberg lace braid. The scrim is hemmed by hemstitching in strips, a row of braid sewed on each edge and then joined to the next strip by a herring-bone stitch.

A CHAPTER ON EGGS

As eggs are usually relished, and as most housekeepers are not familiar with the different ways in which they may be prepared, a few tried receipts for favorite dishes may not come amiss.

Vanilla-snow Eggs.—Beat stiff the whites of six eggs. Have ready on the fire one pint of milk sweetened and flavored with vanilla; as soon as it boils drop the beaten egg into it by tablespoonfuls, and as soon as they become set, turn them, allowing them to cook through, then dip them out with a large spoon.

Snow Pyramids.—Beat the whites of six eggs to a stiff froth, add one teacupful of currant jelly, and whip all together. Fill saucers half full of cream, dropping in the center of each a tablespoonful of the egg and jelly in the shape of a pyramid.

Columbus Eggs.—Peel the shells from a dozen hard-boiled eggs, and cut each egg in two through the center. Cut a small slice off one end so they will stand up on end, as did the famous egg which Columbus handled. Pulverize the yolks and mix with some finely minced chicken, smoked ham or tongue, moistening with a little fresh butter or vinegar, and seasoning to taste with salt, pepper and mustard.

Baked Eggs.—To do this, butter a tin or gem-pan, break in the eggs, sprinkle with salt and pepper and put a bit of butter on each, and place in the oven. Watch closely that they do not cook too hard, or place the dish containing them in the steamer.

HAM OMELET.—Three eggs, two tablespoonfuls of milk, one half teaspoonful of corn-starch, a little salt. When the omelet is nearly done add a little minced ham, fold the omelet once, and serve on a hot platter garnished with parsley.

Beef Omelet.—Mix together the following ingredients: Three pounds of boiled lean beef chopped fine, three eggs, one large cupful of rolled cracker, one tablespoonful of salt, one teaspoonful of pepper, one tablespoonful of sifted sage, one tablespoonful of melted butter. Bake one and one quarter hours, with a cover over the baking-dish, basting occasionally.

Plain Omelet.—Beat the whites of the eggs to a stiff froth and the yolks to a smooth batter; add to the yolks pepper, salt and milk, and then beat in the whites with the egg-beater. Have the pan hot, and when the melted butter upon it hisses pour in the egg mixture. Be careful not to stir, but if there be danger of burning slip a broad-bladed knife underneath.

A. M. M.

JAMS AND PRESERVES

When the fruit is at its height of lusciousness and ripeness is the best time to begin to refill the fruit-cupboard.

With strawberries the best plan is to put up a few at a time. The most delicious ones are cooked only one glassful at a time, using one glassful of sugar to one glassful of fruit. Put the sugar on to cook with only a spoonful of water as wetting, let it cook syrupy for about ten minutes, then put in the berries, shake them around in the hot syrup, and let them cook fifteen minutes; then carefully remove to the glasses and fill up with the syrup.

For cherry jam use three fourths of a pound of sugar to one pound of fruit, boil until the juice is almost gone, then add one pint of currant-juice, and boil twenty minutes. Allow a few of the cherry-stones to remain in to flavor it.



Cherries and red raspberries together make a delicious fruit jam, using two thirds of cherries to one third of raspberries. The combination of fruits is often productive of a finer flavor than either alone.

Jams and jellies should be kept up-stairs in a warm room in summer or they will be apt to mold, and this frequently spoils the flavor of them.

For a small house, if the housekeeper would confine her list to a half-dozen of each one of the fruits as they come, she will find her jam-closet well stored before the season is over. If this doesn't last the entire winter it is just as well to have recourse to the winter fruits occasionally than to slave so hard through the hot weather.

BELLE KING.

CASE FOR CURTAIN-STRETCHERS

If you make or buy a set of curtain-stretchers you will need a case to cover them. It is much easier to prevent their becoming dusty than to remove the dust once it has settled on your frames.

Procure two yards of heavy drilling. Cut into halves and sew up one end and the side of each, thus forming long pockets. Slip these pockets over your frames, taking great care to place the pins on the inside and leave the smooth surface uppermost. Lap the open ends in the center, tie securely and relegate to garret until next house-cleaning season.

If once you use stretchers you will wonder how you ever got along without them.

MARGARET M. MOORE. [CONCLUDED ON PAGE 14]

SUMMER DRINKS AND SANDWICHES

RASPBERRY VINEGAR.—On two quarts of fresh raspberries pour one pint of white wine vinegar; the next day put the fruit into a linen bag and press out all the juice, add two more quarts of fresh raspberries, and squeeze as before. Strain the liquor, and to every pint of juice allow one pound of sugar. Put it all in a stone jar, standing the jar in a pot of hot water over the fire. Let the water boil hard for an hour, and when it cools there will be a scum on the vinegar. Remove this, and bottle for use. One teaspoonful of this in a wine-glassful of water is very refreshing on a hot day, after violent exercise, and more healthful than ice-water.

The following six receipts are taken from an old Southern receipt-book fifty years old or more. Though the ink has faded the virtue of the receipts still lives, and the "pea-haulm beer" can be particularly recommended.

AGRAZ.—This is the most delicious and refreshing drink ever devised by a thirsty mortal. Pound half a bushel of unripe grapes, and when crushed add a gallon of water. Sweeten to taste, strain, and serve frozen. It will be of the palest amber shade.

IRISH MEAD.—Five gallons of water, two and one half pints of honey, one pound of stoned raisins, half a pound of currants, one ounce of liquorice, one ounce of mace and some sprigs of rosemary. Boil all these till they are reduced to four gallons, then strain. Add a cupful of yeast, and then bottle it. As soon as it is "brisk" it is ready to use.

PEA-HAULM BEER.—Pour six gallons of water on one bushel of green-pea pods, and boil till the pods become tasteless; pour off the water into a tub or keg, and add one pint of yeast and two ounces of powdered ginger. In a short time fermentation will begin, and when it is completed the beer will be ready to use. Beer thus made is very clear, has a fine amber color, is pungent and refreshing to the taste, and has a lively "head."

GINGER BEER.—Three lemons, two ounces of ginger, two ounces of cream of tartar, two and one half pounds of granulated sugar. Pour two gallons of boiling water into the above ingredients, and when milk-warm add two tablespoonfuls of yeast. Strain and bottle.

In preparing sandwiches one point must ever be borne in mind: they must be thin yet perfect in shape. Bread one day old should be chosen. Butter each slice, then with a very sharp knife shave it off. If you want them round after they are buttered and laid together cut them out with a cooky-cutter. If you wish to transport them and keep them fresh, lay them in a napkin and cover with it, and then roll this in another napkin which has been wrung out in cold water. They will keep fresh twelve hours in this way.

BOSTON BROWN BREAD buttered and with a filling of American cheese makes a delicious picnic sandwich. Graham bread buttered and filled with cottage cheese, salted, peppered and delicately sprinkled is nice for a similar occasion.

WHITE BREAD buttered and filled with peanuts crushed with a rolling-pin and salted are novel and nice for afternoon tea. English walnuts are also nice chopped and used as filling.

CELERY SANDWICHES.—For a substantial sandwich, good for a high tea or even a lunch, celery sandwiches are admirable. Chop your celery and some hard-boiled eggs together, using both the yolks and whites. Form into a paste with mayonnaise, and spread upon thin slices of brown bread. It is most appetizing.

FISH SANDWICHES.—Any left-over fish, picked into flakes with a fork, mixed finely with a little chopped pickle or olives and with a small amount of French or mayonnaise dressing, makes a nice and tasty sandwich. Shad roe is very nice; so is salmon.

MEAT SANDWICHES.—These are usually prepared so that they are as difficult to eat gracefully as a cream cake. The meat should always be chopped fine, then rubbed smooth, with pepper and salt to taste, and then spread on the bread. A little French mustard is nice dusted on, or a little chopped pickle, or a dash of chili or any kind of catchup. Sometimes an invalid may be induced to eat a raw-meat sandwich, if the meat is first chopped, then pounded and seasoned and spread between two pieces of delicately browned and buttered toast.

NANNIE M. MOORE.

CROCHETED BABY SACK

If made as illustrated this sack requires five skeins of corn-colored saxony and is trimmed with pale blue ribbon. Make a chain of 85 stitches. This makes the neck of yoke.

On this chain make 2 s c, making 2 s c in the twenty-first st; then work s c to the forty-fourth st, make 2 s c in the forty-fourth; work s c to the end of row; turn.

Second row—(Work in the back loop of every row to make a rib effect.) S c to the twenty-first s c; make 2 s c in the twenty-first and twenty-second st: s c to the forty-fourth st, making 2 s c in forty-fourth and forty-fifth st; turn.

Third row—S c to the twenty-first st; make 2 s c in the twenty-first st, then 1 s c in each of the next 2 st; 2 s c in the next st; s c to forty-fourth st, making 2 s c in the forty-fourth st, 1 s c in each of next 2 st, 2 s c in next st, s c to the end of row.

Work seventeen more rows of s c, always widening by making 2 s c in the twenty-first st, then 2 s c in the second st of the second widening, 2 s c in the forty-fourth st, then 2 s c in the twenty-first st from the edge. The yoke is twenty rows, or ten ribs, deep.

The rest of the sack is made of shells.

Begin at the lower edge in the front of the yoke and make a shell (2 d c, 2 ch, 2 d c) in every other s c to the corner of the first widening. There should be eleven shells. Ch



16 very loose, make a shell in the corner of second widening in the back of yoke, * miss 2 s c, shell in third s c, miss 1 s c, shell in the next st*; repeat from star to star to the corner of the third widening (there should be eighteen shells), ch 16 very loose, shell in corner of fourth widening, shell in every other s c to end of row (there should be eleven shells); ch 3 to turn.

Next row—Shell in shell across the front, then shell in every third st of the 16 ch. (There will be five shells on the chain.) Shell in shell across the back, then shell in every third st of second 16 ch (there will be five shells), shell in shell to the end of row. Always ch 3 to turn. Work thirteen more rows of shells. There will be fifteen rows in all.

TO MAKE THE SLEEVE.—Begin at the corner of second widening, make a shell in every third s c in the yoke to the corner of the first widening, then make a shell in the space between shells of the body portion of sack. Make twelve rows of shells for sleeve. Make 1 row of d c between each shell of last row, separated by 1 ch. Then make 1 s c in each 1 ch of last row. Make four more rounds of s c (five in all), reversing the work and taking up the back loop. Shell in every other s c one row. Now make a scallop in each shell thus: 1 s c, 3 d c with a picot consisting of 3 ch caught into the top of d c on each d c, 1 s c, 1 s c between each scallop caught into space five between each shell.

TO MAKE COLLAR.—In every other s c in the upper portion of yoke make 1 d c with 1 ch between; turn, make a shell in every other space (there will be twenty-two shells in this row); make two more rows of shells, three in all. Then make scallops around the edge of collar like those on the sleeves, making d c instead of three, however.

Make the small scallops along the front edge of the yoke and sack and the large ones at the bottom. Run ribbon through the row of d c above the yoke and in the sleeves.

STELLA A. McLAUGHLIN.

YOUR PLACE

Just where you stand in the conflict,
 There is your place!
 Just where you think you are useless,
 Hide not your face,
 God placed you there for a purpose,
 Whate'er it be;
 Think he has chosen you for it:
 Work loyally.

Gird on your armor! Be faithful
 At toil or rest,
 Whiche'er it be, never doubting
 God's way is best.
 Out in the fight or on picket
 Stand firm and true;
 This is the work that your Master
 Gives you to do.

—Helen M. Richardson.

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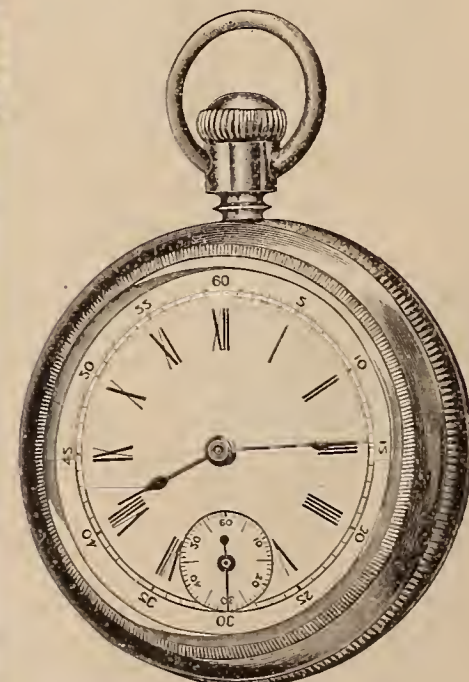
1 KNIPS.	3 PPOY.	5 GOLDMARI.	7 SEPA ETWES.
2 RASTE.	4 YSNAP.	6 GINMORN GORYL.	8 UNS WOLFER.

Can you arrange these eight different groups of letters into the names of eight (8) well known and popular flowers? If so, you will secure \$250 in Cash. We will give \$250 in Cash to anyone who will arrange the eight groups of letters printed above into eight names denoting eight well known flowers. Have we succeeded in attracting your attention? READ CAREFULLY. Remember, we do not want one cent of your money when you are answering this advertisement. There is only one condition which will take less than one hour of your time and which we will write you as soon as your answer is received. In making the eight names the letters can only be used in their own groups and as many times as they appear in each individual group, and no letter can be used which does not appear in its own group. After you have arranged the 8 groups and found the 8 correct names, you will have used every letter in the 8 groups exactly as many times as it appears in its individual group. The money will be paid you July 4, 1899. Should more than one person succeed in finding the eight names, the prize of \$250 will be equally divided among the winners. WHY WE DO THIS. We make this liberal offer so that the name and fame of our popular family magazine, "The *Womans Home Journal*," will be known in every home in the United States and Canada where it is not now read. TRY AND WIN. If you will make the 8 correct names and send them to us at once who knows but what you will get the Cash? Anyway, we do not want you to send one cent with your letter and a contest like this is very interesting. This is not an easy contest. It is a test of merit and skill. The *WOMANS HOME JOURNAL* is an interesting, large, illustrated Magazine, of never less than 64 columns. In scope, it contains everything pertaining to women: Society, Short Stories of intense interest, Fashions, Letter Writing, and in fact if the *WOMANS HOME JOURNAL* once enters your house, we sincerely believe that you will be anxious to subscribe. We wish to introduce the *WOMANS HOME JOURNAL* into homes where it is not a stranger. The *WOMANS HOME JOURNAL* already goes into the homes of over 200,000 where it is anxiously awaited each issue. We wish to increase its circulation to one-half a million during this season, which is the reason for making this grand and unprecedented offer. Make up the eight names and send them to us at once. As soon as we receive your answer we will at once write you and notify you if you have won the prize. We hope you will, as we shall give a way the \$250 anyway. In your letter containing the 8 names of flowers, be sure to sign your full name and address plainly. Do not Delay. Write at Once. *WOMANS HOME JOURNAL*, Sturtevant Bldg., Subscript'n Dept. 98 Boston, Mass.

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BE STILL

Be still! Just now be still! Something thy soul has never heard, Something unknown to any song of bird, Something unknown to wind, or wave, or star, A message from the fatherland afar, That with sweet joy the homesick soul shall thrill, Cometh to thee, if thou canst but he still.

Be still! Just now be still! And know thou hast eternal joy; The lonely vale of sorrow Jesus trod; He knows it all; he knows it and can feel Thy spirit's pain, but he that pain can heal; Thou never yet has proved his wondrous skill; Hush! He will speak if thou wilt but he still.

Be still! Just now be still! There comes a Presence very mild and sweet; White are the sandals on his noiseless feet; It is the Comforter, whom Jesus sent To teach thee what all the words he uttered meant. The waiting, willing spirit he doth fill; If thou wouldst hear his messages, dear soul, be still!

FALSE IDEAS OF SUCCESS

I WAS in the country one day walking along the roadside with a little farmer lad, when, noticing a pretty fragrant flower at my feet, I asked him what it was. "Oh, that's nothing," he answered, "it isn't good to eat." And apparently with him that ended the whole matter, there was nothing further to be said, the flower was not good to eat, perforce unworthy of consideration. The little fellow's point of view was simply that of the great world about him, and he did but speak what the world speaks to-day. Its standard of utility is much the same; for men of the world a man or a thing to be useful must possess a certain money value or its equivalent in terms of standing and influence. Will that man help me along to wealth and position? Can I get more out of him than I put into him? If so, well and good; if not I cannot use him. The question is not will he make me a better man, but will he make me a richer one? Take our idea of a successful man, and on analysis it is found to rest really on the size of his bank-account. "Yes, so-and-so is a successful man, he's worth \$100,000," is a remark we hear almost every day. But what is he worth? Is the \$100,000 all there is to him? Then he is no man; he is not much better than a penny-in-the-slot machine, which does certain things for a certain cost consideration, making profit automatically. Is he a man or a money-getter? Is he a lover of the good, or is he a lover of the good for himself? Has he done anything to make the world better, or is he only a peacock-man, green lined with bank notes, and for this reason pleasant to look at? These are but some of the questions we feel impelled to ask of what the world calls a successful man, that we may probe his character and learn whether his success be real or apparent. Thus it is that in our estimates of men we have come to put money above the man, wealth above worth, and goods above goodness. The popular conception of the meaning of the word "success" demands a radical modification, yet so long as the mammon of unrighteousness is allowed to rule in our heart we shall never discern clearly what true success really is. How much better it would be if the world's standard could be supplanted by that loftier one of which mention is made in the third epistle of John in these words: "Beloved, I wish above all things that thou mayest prosper and be in health now as thy soul prospereth." If this just measure of success came into general use what a falling off there would be in the number of our successful men.—A. E. WARDNER, Jr., in the Interior.

DOING WELL DEPENDS ON DOING COMPLETELY

"If I were a cobbler, it would be my pride The best of all cobblers to be; If I were a tinker, no tinker beside Should mend an old kettle like me."

It is a rule that a workman must follow his employer's orders, as a writer in "The Living Age" says, but no one has a right to make him do discreditable work. Judge M—, a well-known jurist living near Cincinnati, loved to tell the following anecdote of a young man who understood the risk of doing a shabby job even when directed to. He had occasion to send for a carpenter, and a sturdy young fellow appeared.

"I want this fence mended. There are some unplaned boards—use them. You need not take time to make it a neat job. I will only pay you a dollar and a half." Later the judge found the man carefully

planing each board. Supposing that he was trying to make a costly job, he ordered him to nail them on just as they were, and continued on his walk. When he returned, the boards were all planed and numbered ready for nailing.

"I told you this fence was to be covered with vines," he said, angrily; "I do not care how it looks."

"I do," said the carpenter, gruffly, carefully measuring his work. When it was done there was no other part of the fence as thorough in finish.

"How much do you charge?" asked the judge.

"A dollar and a half," said the man, shouldering his tools.

The judge stared. "Why did you spend all that labor on that fence if not for money?"

"For the job, sir."

"Nobody would have seen the poor work on it."

"But I should have known it was there. No, I'll take only a dollar and a half." He took it, and went away.

Ten years afterward the judge had a contract to give for the erection of several magnificent public buildings. There were many applicants among the master-builders, but the face of one caught his eye.

"It was my man of the fence," he said. "I knew we should have only good, genuine work from him. I gave him the contract, and it made a rich man of him."

It is a pity that boys and girls are not taught in their earliest years that the highest success belongs only to those whose work is most sincerely and thoroughly done.—SUCCESS.

HE REMEMBERED THE APPLE-BARREL

Dr. Lorimer, of Tremont Temple, Boston, tells this story of one of our distinguished men, who was introduced at a great public meeting as a "self-made man." Instead of appearing gratified at the tribute it seemed to throw him, for a few moments, into a "brown study." Afterward they asked him the reason for the way in which he received the announcement.

"Well," said the great man, "it set me to thinking that I was not really a self-made man."

"Why," they replied, "did you not begin to work in a store when you were ten or twelve years of age?"

"Yes," said he, "but it was because my mother thought I ought early to have the educating touch of business."

"But then," they urged, "you were always such a good reader, devouring books when a boy."

"Yes," he replied, "but it was because my mother led me to do it, and at her knee she had me give an account of the book after I had read it. I don't know about being a self-made man. I think my mother had a great deal to do with it."

"But then," they urged again, "your integrity was your own."

"Well, I don't know about that. One day a barrel of apples had come to me to sell out by the peck; and, after the manner of some storekeepers, I put the specked ones at the bottom and the best ones at the top. My mother called me and asked what I was doing. I told her, and she said, 'Tom, if you do that you will be a cheat.' And I did not do it. I think my mother had something to do with my integrity. And, on the whole, I doubt whether I am a self-made man. I think my mother had something to do with making me anything I am of any character or usefulness."

"Happy," said Dr. Lorimer, "the boy who had such a mother; happy the mother who had a boy so appreciative of his mother's formative influence!"

A TACTFUL LESSON

A little boy who had been blowing bubbles all the morning, tiring of play, and suddenly growing serious, said, "Read me that story about heaven; it is so gloriously." "I will," said the mother; "but first tell me, did you take the soap out of the water?" "Oh, yeth; I'm pretty sure I did." The mother read the description of the beautiful city, the streets of gold, the gates of pearl. He listened with delight, but when she came to the words, "No one can enter there who loveth or maketh a lie," bounding up, he said, "I gueth I'll go and thee about that thoop!"—North-western Monthly.

WHOLESOME ADVICE

For People Whose Stomachs are Weak and Digestion Poor

Dr. Harlandson, whose opinion in diseases is worthy of attention, says when a man or woman comes to me complaining of indigestion, loss of appetite, sour stomach, heching, sour watery risings, headaches, sleeplessness, lack of ambition and a general run down nervous condition I advise them to take after each meal one or two of Stuart's Dyspepsia Tablets, allowing the tablet to dissolve in the mouth, and thus mingle with the food eaten. The result is that the food is speedily digested before it has time to sour and ferment. These tablets will digest food anyway, whether the stomach wants to or not, because they contain harmless digestive principles, vegetable essences, pepsin and Golden Seal which supply just what the weak stomach lacks.

I have advised the tablets with great success, both in curing indigestion and to build up the tissues, increase flesh in thin nervous patients, whose real trouble was dyspepsia and as soon as the stomach was put to rights they did not know what sickness was.

A fifty cent package of Stuart's Dyspepsia Tablets can be bought at any drug store, and as they are not a secret patent medicine, they can be used as often as desired with full assurance that they contain nothing harmful in the slightest degree; on the contrary, anyone whose stomach is at all deranged will find great benefit from the use of Stuart's Dyspepsia Tablets. They will cure any form of stomach weakness or disease except cancer of the stomach. Full size package at druggists 50 cents. Send to F. A. Stuart Co., Marshall, Mich., for little book on stomach troubles, mailed free.

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W. R. & CO.'S IMPROVED BUTTER COLOR THE STANDARD

Used and Endorsed by Prize-winners Everywhere

At the national convention of butter-makers held at Sioux Falls in January, 1896 out of the 600 tubs of butter exhibited were colored with Wells, Richardson & Co.'s Improved Butter Color.

This is the standard color. Commission merchants everywhere recommend its use, and exporters will not buy butter that is not colored with it. Although by far the best color on the market, it is more economical than any other, for it is prepared in such concentrated form that a bottle of it will color more butter than the same amount of any other make.

If you are not using this color, send 4 cents for postage on a free sample, to the manufacturers, WELLS, RICHARDSON & CO., Burlington, Vt.

AGENTS WANTED

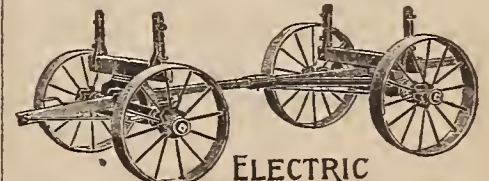
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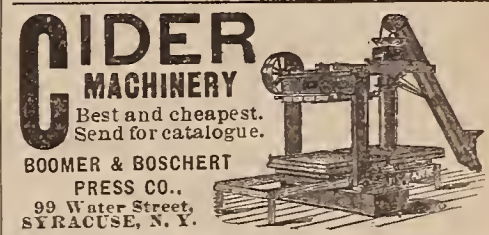
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If you want the best low down wagon you should buy the Electric Handy Wagon. It is the best because it is made of the best material; the best broad tired Electric Wheels; best seasoned white hickory axles; all other wood parts of the best seasoned white oak. The front and rear bonnds are made from the best angle steel, which is neater, stronger and in every way better than wood. Well



ELECTRIC

painted in red and varnished. Extra length of reach and extra long standards supplied without additional cost when requested. This wagon is guaranteed to carry 4000 lbs. anywhere. Write the Electric Wheel Co., Box 96, Quincy, Illinois, for their new catalogue which fully describes this wagon, their famous Electric Wheels and Electric Feed Cookers.



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Mrs. L. Lanier, Mar- tin, Penn., writes: "I introduced my weight 21 lbs. in 15 days without any unpleasant effects whatever." Purely vegetable, and harmless as water. Any one can make it at home at little expense. No starving. No sickness. We will mail a box of it and full particulars in a plain sealed package for 4 cents for postage, etc. **HALL CHEMICAL CO.** B Box St. Louis, Mo.

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SORE EYES Dr. Isaac Thompson's Eye Water

FITS A Great Remedy Discovered. Send for a FREE package & let it speak for itself. Postage 5c. **DR. S. PERKEY, Chicago, Ills.**

BED-WETTING CURED. Sample FREE. Dr. F. E. May, Bloomington, Ill.



WHEN SCHOOL LETS OUT IN JUNE

I hate t' go t' school in spring—
So much fun out o' doors!
I always git spring fever, too,
An' hate t' do th' chores.
Sometimes I want t' quit, but ma
Says, "School will be out soon;
It's time enough fer y'u t' stop
When school lets out in June!"

I look out through th' winder at
Th' woods all green an' cool.
An' wish th't I wuz there instead
O' bein' here in school;
I'd jest play hookey if I da'st,
When school is out fer noon;
But if pa knew it I'd be dead
When school lets out in June!

It's lor's o' fun to' chase chipmunks,
An' lay 'round in th' shade.
An' go a-swimmin' in th' crick,
Or h'ist y'ur pants an' wade;
An' once, down in th' holler, Pup
An' I we tred a coon,
An' got him, too! I wish 'twas time
When school lets out in June!

I wish I wuz that bumblebee—
He flew right through th' door
An' out th' winder—bet I'd never
Come back here no more!
I wouldn't have to speak a piece
An' feel jest like a loon;
I'd be a long way off from here
When school lets out in June!
—Harry Douglas Robins, in Truth.

WHY SHE ACCEPTED

When he proposed, he looked so cheap,
And she was only human;
The bargain she could not resist,
So she took him—like a woman.

WHY THE TRICK FAILED

A CONJUROR was exhibiting in Nashville, and prepared in the usual way for the well-known trick of passing a marked coin into the center of an uncut orange. He found an intelligent urchin, and promised to pass him into the show provided he agreed to come on the stage at a given signal. Of course the urchin assented. The boy was provided with a marked dollar, and when the curtain rose he was in the front row.

The professor proceeded to borrow a dollar in the audience, marked it similar to the one in the urchin's pocket, and after some flourishes, passed it into the orange, from which he extracted it.

"Now," he said, "I'm going to ask some member of the audience to step on the stage and then I'll pass the dollar into his pocket without going near him."

The youngster stepped up; the conjuror made the usual flourishes. "Now, my boy," he said, "put your hand in your right-hand trouser's pocket and give me the dollar."

The boy looked sheepish, but he dived his fist down. Then, to the horror of the conjuror, he produced a handful of silver, and said, "I've only got uinety cents of it left, sir."

NOT A DELUSION

Mrs. Fadde (faith curist)—"How is your grandfather this morning, Bridget?"

Bridget—"He still has the rheumatics mighty bad, mum."

Mrs. Fadde—"You mean he thinks he has the rheumatism. There is no such thing as rheumatism."

Bridget—"Yes, mum."

Mrs. Fadde (a few days later)—"And does your grandfather still persist in his delusion that he has the rheumatism?"

Bridget—"No, mum; the poor man thinks now that he is dead. We buried um yisterday."

TO FACILITATE MATTERS

The following blank form for a bank-check is designed for the use of feminine depositors:

DEAR _____ BANK:
What _____ weather! Isn't it just too _____ for anything? How are you, anyway? Oh, yes, before I forget it will you please pay to _____, let me see—oh, yes, _____ dollars? Oh, I know you will! Thank you ever so much!"

[And printed crisscross]:—

P. S.

—Detroit Journal.

HINTS FROM AN EXPERT

"Billy, which would you get—a new suit or a new wheel?"

"Well, if you wear good clothes maybe you can get trusted for a wheel, but having a new wheel won't help you out any on clothes."—Chicago Record.

ONE ON MAMA

Small Johnny had on his best clothes, and his mama told him not to play in the dirt with them on. "Don't they have any dirt in heaven to play in?" he asked.

"No, of course not," replied his mother.

"Then what do little boys do up there?" queried Johnny.

"Oh, they play harps and sing and sit under beautiful trees," was the reply.

"Well," said the little fellow, "I don't see how they can have trees if there ain't no dirt."—Houston Post.

HE'S GUESSING YET

Ye poet—"Would that my muse might soar aloft and, cleaving the empyrean blue, find words to sing the glorious glory of your hair of bur-nished gold!"

Ye maiden (Titian haired, but prosaic)—"That sounds very pretty, Mr. Scribbler, but do you know the difference between your poems and my hair?"

Ye poet—Ah, a conundrum. I give it up. What is the difference, oh fairest of your sex?"

Ye maiden—"Well, my hair's read."

EYE TO BUSINESS

The doctor hurried in and called the druggist to one side. "I've just been called to attend the Croesus baby," he said, "and I've given a prescription that calls for nothing but paregoric. When they send it over here you must tell them it will take at least an hour to put it up and the cost will be \$3.50. That's the only way to make them think I'm any good, the medicine's any good and you're any good, and I want to keep their business."—Chicago Post.

GOOD, BUT STILL MISTRUSTFUL

Going smilingly up to his mother one day, Tommy said:

"Ma, haven't I been a good boy since I began goin' to Sunday-school?"

"Yes, my lamb," answered the mother, fondly.

"And you trust me now, don't you, ma?"

"Yes, darling."

"Then," spoke up the little innocent, "what makes you keep the mince-pies locked up in the pantry the same as ever?"

PROBABLY

"I'd like to find some business that isn't over-crowded."

"If you do you'll probably find that there isn't anything in the business to attract a crowd."—Puck.

AS TO ROBINSON

Little Harry—"Pa, do you think Robinson Crusoe was very unhappy on that desert island?"

Pa—"Well, if he was he was foolish. He didn't have his wife with him."—Cleveland Leader.

NEEDED HASTY TREATMENT

Dorothy (noticing with great distress a rip in her doll, whence the sawdust was spilling out)—"Oh, mama, please do somethiug quick! Dolly's just sawdusting herself to death."

LITTLE BITS

Mistress—"Bridget, these are ewers. I hope you'll not call them jugs any more."

Bridget—"Thank yez, mum. Shure, an' is these others moine, too?"—Jewelers' Weekly.

Mark Twain has forwarded to the editor of "War Against War" an article in which he says: "The Czar is in favor of disarmament. So am I. There ought to be no difficulty about the rest of the world."

Young housekeeper—"Yes, Mr. Sorghum, I'm very particular about eggs."

"Quite right, mum."

"You see, we get one cow's milk regularly every morning, and I wanted to make an arrangement with you so that we can get the eggs of one hen."

The puzzled old gentleman from Upereek, who had been watching the switch-engine at work up and down the side-track on the occasion of his first visit to a railroad town, scratched his chin and remarked to the lounge on the station plat-form, "I can understaud how the ingine pulls the cars. I've got that all figured out. But I'll be durned if I can see how the cars pulls the ingine back!"

"Nellie," said a mother to her little daughter, "I wish you would run over and see how old Mrs. Smith is; she has been quite ill."

In a few minutes Nellie came running back and reported, "She said to tell you that it was none of your business."

"Why, Nellie," said the astonished mother. "what did you ask her?"

"Just what you told me to," replied the little innocent. "I told her you wanted to know how old she was."

Dr. Swift's

RHEUMATIC AND GOUT CURE

\$1.00 a bottle,
3 bottles \$2.50 prepaid
with Guarantee.

Only Rheumatic Cure in the World Guaranteed to Cure or Money Refunded.

Free Distribution of 100,000 Bottles Extended to June and July—Demand Greatest Ever Known in Medical History

10,000 Agents Wanted to Introduce the Great Remedy in New Territory—Enormous Profits Guaranteed to Workers—\$182.00 a Month for Selling Four Sufferers a Day

The free distribution of 100,000 bottles of Dr. Swift's Rheumatic and Gout Cure has developed such enormous proportions that it has been utterly impossible to conduct the grand gift enterprise within the time limit, and therefore Dr. Swift has decided to extend it to June and July, so all will have an opportunity to test the merits of his famous preparation.

If you suffer from rheumatism or gout in any form, including sciatica, lumbago, neuralgia, pains in back or loins, stiffness, pains or aches in the muscles, inflammation or muscular rheumatism, send for a sample bottle of Dr. Swift's Rheumatic and Gout Cure, inclosing 10 cents, and you will be supplied promptly.

Attention is also called to the fact that this is the only rheumatic cure in the world that is guaranteed to cure or money refunded; and further to the fact that in case it is impossible to cure within 30 days, the guaranteed time for all cases, the Doctor agrees to furnish Free Monthly Medical Treatments, once the sufferer has purchased the 3 regular bottles at \$2.50, the only stipulation being that 50 cents a month be sent for prepaying transportation. This means that you will be cured for \$2.50, no matter how many months may be required. People who have been imposed on by irresponsible manufacturers who send out weak medicine to get as much money as possible, will appreciate this new departure of Dr. Swift's, which only requires \$2.50 as a total sum asked to cure.

If your case is desperate, order the 30-day treatment of 3 bottles at \$2.50 with guarantee and free-treatment offer.

DR. SWIFT'S FAME IS SPREADING

Mrs. Emily A. Burnham, of Pella, Iowa, says: "The three bottles of Dr. Swift's Rheumatic and Gout Cure I am now ordering are for a friend in the next town. Ever since I was cured a year ago I have spread the news, and to-day Dr. Swift's fame in adjoining towns is well known. Percy Hare has got well enough to go back to work."

DR. SWIFT ASTONISHED HER

Mrs. Sarah Tenney Jackson, of 81 West 108th St., New York, says: "Less than half a bottle of Dr. Swift's marvelous cure brought me out of bed, and just two bottles completely cured me of sciatica. Two doctors had failed with the aid of morphine to kill the pains."

We want 10,000 agents to introduce the specific everywhere, and in order to get them we are going to make the most wonderful terms ever known in history. We want 10,000 agents inside of 60 days. If you want to earn \$182.00 a month, send for a sample bottle, inclosing 10 cents, and watch its effect, either on yourself or some suffering friend. When mailing the bottle we will show you how to earn \$182.00 to \$300.00 a month if you will devote your time to our interests. Address Dr. Swift, Swift Building, New York City. Book about rheumatism free.

This is one of the finest knives manufactured by the old reliable Humason & Beckley Cutlery Co. It sells in most hardware stores for \$1.00.

Postage paid by us in each case.

Description: The cut shows the exact size and shape of the knife. It has two blades of razor-steel, hand-forged, oil-tempered, sharpened, and highly polished. It has genuine buffalo-horn handles, German silver bolster and shield, and brass linings. Being made of the best materials throughout and elegantly finished, it is a perfect knife. Satisfaction guaranteed.

Premium No. 414.

FREE This fine Pocket-knife will be given as a premium for a club of FIVE yearly subscribers to Farm and Fireside. **FREE**

We will send Farm and Fireside One Year and this Knife to any one for 80 Cents.
Address FARM AND FIRESIDE, Springfield, Ohio

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FARQUHAR RAKE SEPARATOR

Lightest draught; most durable, perfect in operation and cheapest.

Farquhar Vibrator Separator

greatest capacity; wastes no grain, cleans ready for market. Specially adapted for merchant threshing and large crops. Threshes rice, flax and millet. Received medals and awards at three world's fairs.

Farquhar Celebrated Ajax Engine

Received medal and highest award at World's Columbian Exposition. Farquhar's threshing engines are the most perfect in use. Have seats, foot brakes and two injectors. Are very strong and durable and are made as light as is consistent with safety. There is no record of a Farquhar boiler ever exploding.

Pennsylvania Traction Engine

Combines the advantages of all. Powerfully strong, durable, convenient.

HENCH & DROMGOLD'S FORCE FEED GRAIN & FERTILIZER DRILL

Positively the neatest, lightest, and strongest grain drill on the market. Many points of superiority; it is geared from the centre. Quantity of grain and fertilizer can be changed while in operation without the use of gear wheels. Fully guaranteed. Positively accurate in quantity. Give one a trial and be convinced. Agents wanted. Circulars free. Address HENCH & DROMGOLD, Mfr's, York, Pa.

Let us send you a little book FREE showing how to protect your Sheep from Dogs by using our HERO SHEEP COLLAR. The cost is trifling, and it always does the work. Your name on a postal card will get the book.

WELLINGTON MFG. CO., Indianapolis, Ind.

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Send for free sample book of beautiful designs direct from manufacturers and save 25 per cent. Agents Wanted.

KAYSER & ALLMAN,
1214-1216 Market St., Phila., Pa.

DO YOU WANT TO SELL or exchange your farm. We are selling property everywhere. **WHAT HAVE YOU GOT?** Give full description.

MANHATTAN REALTY CO.,
Temple Court, N. Y. City.

Catarrh Cured While You Sleep By the use of LUXOL. No instruments, no injurious drugs, no ex-pensive charges. Trial package sent post-paid for 10 cents. Two months' treatment \$1. Address **DR. ROBERTSON, 822 W. 4th St., Cincinnati, Ohio.**

SNOWFLAKE YEAST WAFERS Agents wanted. Samples 6 cts. G. C. Scott, White Oak, S. C.

SPECTACLES at wholesale. Send for catalog. Agents wanted. **COCULTE OPTICAL CO., Chicago, Ill.**

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MISCELLANY

CHAUVINISM AND JINGOISM

Chauvin was the name of the principal character in Theodore and Hippolyte Cognard's "La Cocarde Tricolore," played with immense success at the theater "Folles Dramatiques," Paris, March 19, 1831. He represented a bragging veteran of the empire, who was continually talking of his achievements at Austerlitz and Jena, and his determination to take a brilliant revenge for Waterloo. An old Parisian even claims having known personally the veteran soldier after whom this character was drawn. According to Littré chauvinism has come to mean extravagant and narrow-minded notions of patriotism and corresponding enmity toward foreign people.

Jingoism is a word borrowed from British politics. In 1887 England was undecided whether to interfere forcibly in the war in Bulgaria between Russia and Turkey. The Liberals, led by Gladstone, were in favor of leaving Turkey to itself, while the Conservatives, under Lord Beaconsfield, the Premier, were determined to protect Turkey from Russia. During the winter of 1877-78 the excitement in London became intense, and this excitement found its way into the music-halls. At one of these halls where the fighting spirit prevailed a new doggerel was every night sung amid wild applause, and soon came to be heard in the streets, baving for a refrain:

We don't want to fight, but, by jingo, if we do,
We've got the ships, we've got the men, we've got the money, too.

"Jingo" shunted with a significant emphasis was derisively cast as a nickname at the warlike party, and was proudly accepted by them. The term has ever since been applied synonymously with chauvinism in France, and "spread-eagleism" or "imperialism" in the United States, to designate a warlike spirit.—New York Tribune.

AN AVALANCHE IN THE CHILKOOT

Walter Freeman Crowell, writing in "Truth" of the Alaskan trails, thus describes the coming of the dreaded snow-slide:

A constant procession of bent and staggering figures is creeping ant-like to the heights above. The day has been warm and sultry, with a heavy snowfall during the night. Suddenly a low, muttering sound, like the fall of a distant river, breaks the silence. It swells in volume until it becomes an all-pervading roar. Huge trees and giant boulders, torn from the mountain side, are sent flying through the air as if by a gigantic catapult. The very earth is stripped from its rocky bed by the irresistible onward rush of the snow. The ground quivers and shakes; a thunderous crash, then silence again, so deep, so profound, that it sinks into the soul. Such is the avalanche of the Chilkoot, and in a similar one nearly a hundred lives were blotted out last spring.

THE DOCTOR WAS CONSIDERATE

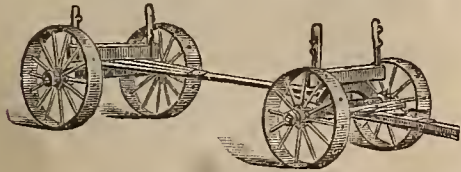
Dr. Gruby, a physician of Paris, famous for his efforts to protect animals from cruelty, was logical enough to include insects in his mercy. He was, however, a little nervous, and when one day in his parlor a big bluefly buzzed uninterruptedly on a window-pane, the doctor called his manservant. "Do me the kindness," said the doctor, "to open the window and carefully put that fly outside."

"But, sir," said the servant, who thought of the drenching the room might get through an open casement, "it is raining hard outside."

The doctor still thought of the fly and not of the cushions. "Oh, is it?" he exclaimed. "Then please put the little creature in the waiting-room, and let him stay there until the weather is fair."

FARM WAGON FOR ONLY \$19.95

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Co., Quincy, Ill., has placed upon the market a Farmer's Handy Wagon, sold at the low price of \$19.95. The wagon is only 25 inches high, fitted with 24 and 30 inch wheels with 4 inch tire.



This wagon is made of best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

X-RAY AS A DEPILETORY

It was stated not long ago that the Roentgen rays had been taken up quite actively in the practice of dermatologists for the removal of skin blemishes. This employment of the rays has now been extended to the removal of hair from the human skin. The use of a current not exceeding two amperes at not more than eleven and one half volts is necessary to avoid inflaming the flesh. The tube should be kept from twenty to twenty-five centimeters from the place operated on, and each operation should last about ten minutes. From seventeen to thirty operations usually suffice.

SUGAR AND ITS HISTORY

Sugar is a constituent of most plants, in greater or less degree, at some period of their growth. Its exact position or function in the metabolism of plant tissue is still a matter of theory among chemists, but its wide distribution is becoming more and more evident as time goes on. Even the cereal grains, formerly supposed to be merely storehouses of starch, have lately been found to contain notable quantities of sucrose, or saccharose, the specific name used by chemists to distinguish the substance in question from its congener carbohydrates possessing a sweet taste. The popular name for this substance, however, cane-sugar, indicates the plant containing it in sufficient abundance to first attract the attention of mankind. This plant, *Saccharum officinarum*, probably originated in Asia, whence it has spread gradually to all tropical regions, its easy propagation from eyes on the cane itself assisting materially in its dissemination. The cultivation of this plant for its sweet qualities stretches far back into the past, "sweet canes" being mentioned in the Hebrew Scriptures, and its use in China probably antedated even this mention; yet the extraction of sugar from its juice, and especially the use of the substance as a separate article of food, is a matter of comparatively recent date.

For centuries it was used in Europe only as a confection or as a medicine, and it was not until the beginning of the seventeenth century, a hundred or more years after it was first cultivated in the Eastern Hemisphere, that it began to be an article of commerce and was imported to any extent into Europe. Once begun, however, its modern development down to the present day, when it constitutes one of the world's greatest industries, the product of which reaches the consumer for the greater part as a chemically pure article, is little short of marvelous; in truth, its history cannot be surpassed in interest by that of any line of human endeavor.—North American Review.

NATIONAL EDUCATIONAL ASSOCIATION MEETING

For the meeting of the National Educational Association at Los Angeles, Cal., July 11-14, 1899, the Union Pacific will make the greatly reduced rate of one fare, plus \$2.00, for the round trip.

The excellent service given by the Union Pacific was commented on by all who had the pleasure of using it to the convention at Washington in 1898. This year our educational friends meet in Los Angeles, and members of the Association and others from points East should by all means take the Union Pacific.

The service of the Union Pacific via Omaha or Kansas City is unexcelled and consists of Palace Sleeping-cars, Buffet Smoking and Library Cars, Dining-cars, meals a la carte, Free Reclining-chair Cars and Ordinary Sleeping-cars.

The Union Pacific is The Route for summer travel. For full information about tickets, stop-overs, or a finely illustrated book describing "The Overland Route" to the Pacific Coast, call on or address A. G. Shearman, Gen'l Agent Pass. Dept., U. P. R. R. Co., Room 36, Carew Bldg., Cincinnati.

AMBIDEXTERITY ADVOCATED

The school authorities in Germany are giving much attention of late to developing left-handed facility among the school children. They argue that the greater development of the right hand produces one-sided movements, which, repeated constantly, have their influence on the entire system and spoil the symmetry of the body.

In the boys' mechanical department in the German schools much of the work is done by the left hand under compulsion. The boys are taught to saw, plane and hammer with the left hand as well as the right. In all trades and professions involving heavy hand-work the importance of being able to use both hands equally well is being impressed upon the students. As example, the case of a bronze worker is cited. He could work as effectively with his left hand as with his right. That made it possible for him to change off when his right hand became tired.

Exercises that require the effort of the entire arm are urged by the German educational officials. Large circles are drawn by the scholars on the blackboards, first with one hand and then with the other, without bracing the hand, so that the entire arm is in action. The superiority of Japanese drawing can probably be traced to the custom of that land to make the children practise painting and drawing without the use of any stick or supporting device for the hand. They are taught to draw at the same time they are taught to write the letters of their alphabet, and they are taught to use both hands equally in the task.

The natural preference given to the right arm has been explained physiologically by the construction of the veins and nerves that enter the arms, those of the right arm being more prominent. The reverse is the case in the few who are naturally left-handed. Many instances are recorded of men who were ambidextrous, among these being two renowned painters, Menzel and Klimsch.

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FOR 1899



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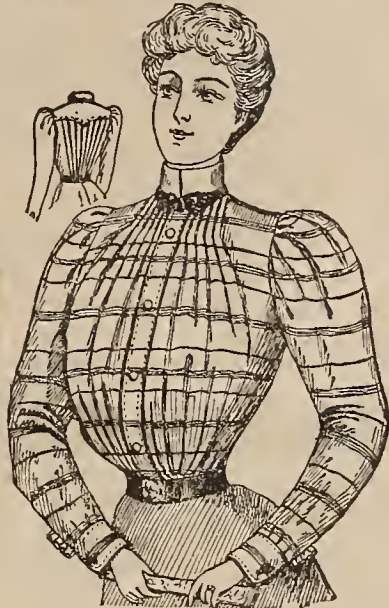
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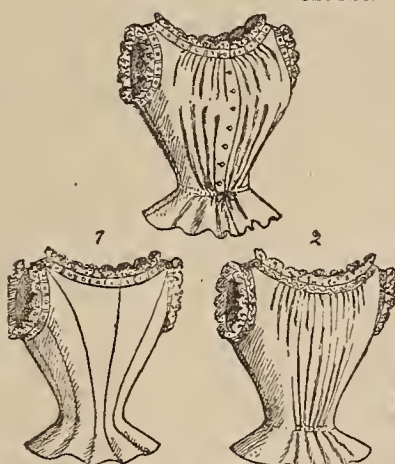
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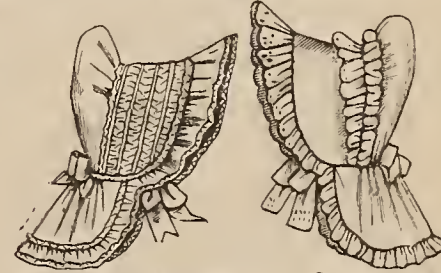
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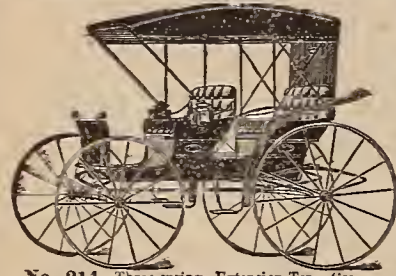
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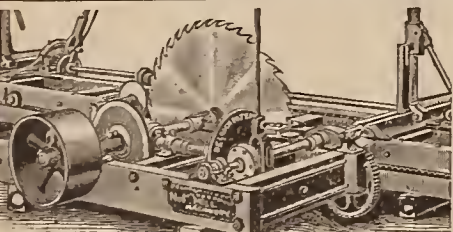
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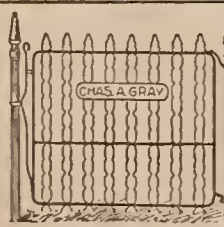
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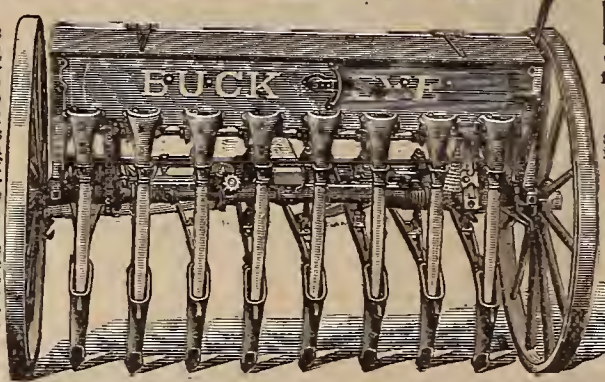
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Vol. XXII. No. 18

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CHINESE AGRICULTURE

IV.—FERTILIZING

BY WILLIAM N. BREWSTER

NO BETTER proof is needed that the Chinese as farmers are industrious, careful and intelligent than the fact that in South China nearly all of the soil in the valleys has produced at least two, generally three, and not infrequently four crops a year for thousands of years without reducing its fertility in the least.

It goes without saying that in order to do this practically everything that is taken off of the fields is put back upon them. While they know nothing scientifically of the chemical composition of the soils, yet necessity has forced them to study out practically many methods which are scientifically correct.

That method which is most useful, most distinctive of China, most essential to the very existence of the Chinese as a nation under present conditions, most offensive to the foreigner's olfactory, and most omnipresent, is due to the fact that nearly all of the products of her soil are consumed by the teeming millions of her population. Cattle are comparatively few, pigs more numerous, but few in proportion to the population, chickens do not count much in the matter of consumption, so that these three or four annual crops are eaten by the people who raise them. If this method were not used the country would become incapable of supporting the population in five years. This fact tends to reconcile the philanthropic foreign visitor or resident to the open vats and open buckets that he must pass or be passed by a hundred times a day as he travels about. But the manure of domestic animals is made the most of, and in the peculiarly Chinese way.

I said to the man that brought me his pony for a short journey the other day, "Why do you not keep your pony in a clean place? A white horse with a filthy coat is very objectionable to a foreigner."

"If I clean up the stable every day the manure will not be so valuable," was the characteristic reply.

When the bubonic plague was raging last summer I was exhorting the village people to clean up about their houses to prevent them taking this fatal disease. A place for feeding the family pig was as filthy as possible. I said, "You ought to clean that place every day. You can fatten your pig just as well, and avoid the stench in the house, and possibly the plague may come from that pile of black filth." And this practical economist replied, "That black dirt makes very good manure." The fact that one member of the family taken sick, much less dying, would cost many times more than the fertilizer was worth in several years was too remote a possibility to affect this time-honored practice of feeding the family pig inside the house and cleaning up the sty only so often as it would be profitable for agricultural purposes. Vats of cement or stone are everywhere, and into these vats are thrown straw, vegetable tops, leaves and whatever refuse there is that is not wanted for fuel or for other commercial purposes. Water is then poured in, and when the refuse is entirely rotted this water is carried in buckets and sprinkled on the growing rice and vegetables.

The Chinaman fertilizes not merely once a year when putting in his crop, but until it is nearly ripe. This, in the case of green

vegetables, is more profitable to the producer than to the consumer, for disease germs are lodged in the leaves that doubtless have much to do with the constant prevalence of cholera in the East.

As I write this upon a canal-boat the fields on either side and banks are constant illustrations of my subject. On the banks are piles of earth drying, which have been

concern itself to keep them open, and there is little public spirit in China to depend upon for such works.

In many fields on either side of the canal are round piles of earth in clods, about two or three feet high and twice as broad, from the back of which issues a thin column of smoke. The entire surface of the soil of much of the rice-land is thus being smoked

them upon the family fields. Even the sweepings of the houses are saved by these thrifty economists; and a wife is expected to get enough money for the house dust to keep herself supplied with brooms. Even the value of bones is understood, and they bring a high price. They are pulverized in a stone mortar, with hand or foot power, and used for certain soils and crops.

This gathering up of all the filth and using it to produce more food serves a double purpose. Not only is the productiveness of the soil preserved, but a degree of cleanliness is maintained that makes life possible. With the utter ignorance and indifference of the Chinese to cleanliness for the sake of comfort and health, if it were not profitable for them to clean up their houses and streets they would become so filthy that pestilence would sweep the population off the earth. In proportion to the density of the population the value of all fertilizer increases, so that the very crowding of the people tends to improve their cleanliness. The city of Hinghua is said by all visitors to be an unusually clean one. It is not because the Hinghua people are naturally haters of dirt, but the population is unusually dense even for China, and it pays the people to clean up the streets and houses and carry the dirt off to their fields. The farmers are even willing to pay for the privilege of buying all the refuse of the city at a good price.

One would think that this scrupulous care in using everything would make it unnecessary and even unprofitable to import any fertilizer; but into this one small territory of Hinghua, seventy-five miles long by forty wide, is annually imported from the Shantung province, a thousand miles north, not less than one thousand two hundred tons of bean-pulp, which sells at from fifty to sixty dollars (Mexican) a ton.

This bean-pulp is simply beans from which the oil has been pressed out. It is imported in round, flat cakes of about the size and shape of an American farmer's grindstone. It is pulverized and dissolved in water by soaking for a fortnight, and then mixed with more water and put onto the fields. This bean-pulp is absolutely necessary, it is claimed, to raising sugar-cane. In planting each joint of cane is dipped into the pulverized bean-pulp.

Peanut-pulp is also used very extensively. Peanut-oil is used by the Chinese as Americans use lard. The oil is pressed out, and the pulp in disks one foot across by an inch or two thick is used for much the same purposes as the bean, but it is less effective and is mostly a local product.

The expense of all this, it is plain to all, must be very great. The Chinese farmer can tell you exactly what will be the difference in his crop from using a certain fertilizer, and how much is necessary to bring the best results.

He calculates upon spending for this purpose alone at the rate of \$12 (Mexican) a crop an acre, or ordinarily \$36 a year for his three crops. But the figures do not tell it all. Where ten cents a day is considered fair wages, this \$36 represents the wages of one farm laborer for a year; or counting one crop a year, it would represent to the American farmer, for fertilizing three acres, a sum equal to the wages of his "farm-hand" for twelve months. That is far more than the land produces.

Nevertheless, farming is the chief and favorite occupation of the Chinese; it is the most certain of profits, though the margin is narrow, and in it their best qualities of industry, skill and economy are displayed.



FERTILIZING GROWING WHEAT

scooped up from the sediment at the bottom of this canal. This, when hardened in the sun, is pulverized and put on the fields. It is most fortunate that this sediment is valuable, being well worth the labor of dredging it up by hand with a scoop attached to a long bamboo pole worked by a man in a flat-boat. If it were of no value these canals, so necessary to agriculture and commerce, would fill up. This government would not

and burnt by straw in the middle of each pile. This is a laborious but very effective method of strengthening the soil. It is probable that one reason that Chinese fields are so free from weeds is the fact that the soil is treated in this way. The burning kills the seeds.

The value of ashes as a fertilizer is well understood, and the housewife carefully saves them, selling for a good price or using



BURNING STRAW IN PILES OF EARTH

FARM AND FIRESIDE

PUBLISHED BY

THE CROWELL & KIRKPATRICK CO.

OFFICES:

147 Nassau Street, New York City
Springfield, Ohio
204 Dearborn Street, Chicago, Illinois

Subscriptions and all business letters may be addressed to "FARM AND FIRESIDE," at either one of the above-mentioned offices; letters for the Editor should be marked EDITOR.

TERMS OF SUBSCRIPTION

One Year - (24 Numbers) - 50 Cents
Six Months - (12 Numbers) - 30 Cents

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Subscribers receive this paper twice a month, which is twice as often as most other farm and family journals are issued.

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THE editor of the FARM AND FIRESIDE greatly regrets that the poem entitled "Papa, What Would You Take For Me?" published on page 11 of the June 1st issue was incorrectly ascribed to Eugene Field, when the author, Hon. S. B. McManus, and the publisher, The Western Methodist Book Concern, should have received the credit for this touching hit of verse.

IN a recent number of "Collier's Weekly" is a very interesting article on the Philippines by a Filipino, Ramon Reyes Lala, a native of Manila, now in this country. In describing the condition of affairs in the islands and sketching a plan for their future government Mr. Lala says, in part:

"There are no less than thirty distinct tribes in the islands. Of these the most powerful are the Tagalogs, the Visayans, and the Sulu Mohammedans, who together form about five eighths of the native population. The other three eighths are savage mountain tribes of mixed and doubtful origin, who were never conquered by Spain, and who are as hostile toward the civilized natives of the valleys as toward the Europeans. These barbarians are nomadic, and they live in primitive communities. Their tribal government is of a patriarchal nature, and there is therefore no cohesion among them. They have probably never heard of the Americans, and would resent all efforts to civilize them, whether made by antiquated Spain or modern America. They can, therefore, hardly be said to have a political attitude. Their only philosophy is to live without work and to steal all they can. Their views should, therefore, be entitled to but little consideration; and they will form a perplexing problem for American statesmen when the islands shall have been pacified. Such are the Igorro-Chinos, the Negritos, the Tinguianes, the Gaddanes, and the other savage tribes of the interior.

"Now, the Tagalogs of Luzon, who number about two millions, and the Visayans of the southern islands, who are estimated at about three millions, are the true Filipinos. The inhabitants of the Sulu protectorate, who number only a few thousands, and who are all Mohammedans, though civilized, are

so different from the natives of the north, have so little sympathy with them, and have so far been so little affected by recent events, that I shall leave them out of this discussion altogether.

"The Visayans are a far gentler race than the Tagalogs. There is great hostility between these two races, both of whom have been under Spanish influence for centuries, and each of whom is jealous of the other's power. This bitterness and rivalry have recently been increased by the course of Aguinaldo, who has put garrisons of the hated Tagalogs in nearly all the Visayan towns, putting the latter into a state of apparent resistance to American rule, when, in reality, the Visayans eagerly desire it. For to them nothing could be more odious than to be ruled by their hated rivals of the north.

"It will, therefore, be seen that the insurgents represent but a small proportion of one of many races, and that the insurgent chiefs who talk so grandiloquently about their battle for the political and constitutional independence of their country are insincere. For the withdrawal of the Americans from the islands would be the signal for a race war that would be carried to every part of the archipelago, bringing death to countless thousands of its people and destruction to every vested interest in the colony.

"This is well recognized by the leading Filipinos in Manila, and that is why they have been so feeble in their support of Aguinaldo and his cause. If furthermore, the dictatorial methods of the rebels in the past is made the basis for our judgment of their policy in the future, we cannot but believe that American intervention will save us from a tyranny worse than that of Spain itself.

"The Filipinos are not yet able to govern themselves, and only those who are not fully informed or who are actuated by a desire for self-aggrandizement think otherwise. Were we all of one origin and one faith, the problem would be much simpler.

"It will take a stronger nation from without to allay sectional jealousies and racial hate, and to establish a government that can guarantee freedom and security to every native in every island—to all tribes and races alike, without tyranny and without favoritism. That Spain failed to do this is no proof that America will fail. If Holland has made such a signal success in the government of her East India possessions, why should not the United States be able to do as well by us? I believe she will, and with me in this desire and belief are a great majority of the best classes of my countrymen.

"It is America's duty to finish the work she has so conspicuously begun. In saying this I am only actuated by the desire for my country's welfare. I have little interest in the idea of American imperialism.

"Would it not be base to leave the millions of Filipinos who ardently desire independence under American auspices—because it alone will bring the freedom and security so long denied them—at the mercy of a few misguided leaders, or to shameless and unprincipled adventurers whose course is inspired chiefly by the thought of their own gain?

"When the war is at an end, and I cannot see how it can last much longer, the Americans will find active support on the part of the best elements of my countrymen. The recent proclamation has done much to assure these of the pacific intentions and the beneficent purpose of the Americans, and I bespeak a hearty co-operation in every province. But the Americans must learn whom to trust. Only the best men among my people should be selected to aid in the accomplishment of this good work; and these, as a rule, will not be found among the present insurgents.

"The new government should be made as autonomous as possible; but everything should be done under the supervision of honest and competent Americans, who have been chosen with a view to their special fitness for this work. Having seen a good deal of the workings of machine politics in America, I would emphasize that this system be not introduced into the Philippines. I would

suggest the appointment of a permanent Philippine commission (the present commission would be an excellent one), which is to discuss all matters pertaining to the welfare of the colony, and to advise the President in regard to all domestic appointments."

GENERAL ELWELL S. OTIS, the able commander of the American military forces in the Philippines, has a long and honorable record in the service of his country. He was born in Frederick, Maryland, March 25, 1838. He was graduated at the University of Rochester in 1858, and at the Cambridge law school in 1861. In September, 1864, he entered the volunteer service of the United States, as captain of the 140th New York Infantry; became lieutenant-colonel in 1863, and colonel in 1864. He took part in all the principal engagements of the Army of the Potomac after Antietam. He was severely wounded near Petersburg, and was discharged in January, 1865, with the rank of brevet brigadier-general. In 1867 he was appointed lieutenant-colonel in the regular army, and became colonel in 1880. From



MAJOR-GENERAL ELWELL S. OTIS

1867 till 1880 he served on the frontier against the Indians. In 1881 he organized the United States infantry and cavalry school in Leavenworth, Kansas, which he conducted until 1885. In 1893 he was commissioned a brigadier-general. At the beginning of the war with Spain he was appointed a major-general, and placed second in command of the Eighth Corps sent to the Philippines. August 30, 1898, he succeeded to first in command, and became governor-general of the islands. His administration of both civil and military affairs there has been admirable, and entitles him to the fullest confidence and highest esteem of his countrymen.

IN a forceful article on improvement in agricultural conditions Col. J. H. Brigham, Assistant Secretary of Agriculture, says:

"Within the last two or three years I have noticed a marked change of feeling among farmers. There is less complaining and more interest in farm operations. Methods are improving; careful experiments are being made with fertilizers; improvement in the breed and care of farm animals is apparent; farmers are paying their debts, and if not able to pay in full can easily secure extension at lower rates of interest. They are also more careful about contracting debts; they are improving their buildings and home surroundings, and in many ways are manifesting a more hopeful feeling than prevailed a short time ago. I do not wish to discuss the causes that have brought about this change; I simply desire to show the facts and answer briefly some of the writers who make a business of trying to discourage farmers and checking any disposition on their part to take a more hopeful view of the future.

"Compare the two years of 1895 and 1898 with regard to the value, acreage and average value of the principal crops and the number and average value of farm animals, and we find that the corn crop increased in value from \$544,985,534 in 1895 to \$552,023,428 in 1898—over \$8,000,000. The wheat crop increased in value from \$237,938,998 to \$392,770,320; the oat crop increased in value from \$23,000,000; and the cotton crop increased in value from \$293,358,856 to \$319,491,412, the latter figures being for 1897. The value of the great farm crops of corn, wheat, oats, rye, barley, hay,

buckwheat, potatoes and cotton increased from \$1,760,322,536 in 1895 to \$1,968,537,114 in 1898.

"It is not merely in the total value of the crop that there has been an increase, but in notable instances there has been an increase in the farm or primary market value per unit of measure. In the case of wheat, for example, the farm value increased from 50.9 cents a bushel in 1895 to 58.2 cents in 1898; a bushel of oats, on the average, increased in value from 19.9 cents to 25.5 cents; rye increased from 44.0 to 46.3 cents; barley increased from 33.7 to 41.3 cents; buckwheat increased from 45.2 to 50.0 cents; while the prominent crop of potatoes had an increase of value a bushel from 26.6 cents to 41.4 cents. It is true that on account of immense over-production, the price of cotton declined considerably within this period, and that corn had the slight fall of one half cent a bushel, but it is a general fact, as the figures show, that the farmer is better off in the profit of his crop, as well as in the aggregate of its production, within the period under consideration.

"With regard to farm animals, the raising of which is so important to the farmer, there has been a distinct improvement since 1895 in most cases. On January 1, 1896, the aggregate value of horses, mules, milk-cows, oxen and other cattle, sheep and swine, was \$1,727,926,084, which was increased to \$1,997,010,407 on January 1, 1899. Here is an increase of over \$269,000,000 within three years.

"In order to demonstrate beyond doubt that the increase in the aggregate value is not due to increase of numbers, average values are computed, the result showing that horses increased in value per head from \$33.07 to \$37.40; milk-cows, from \$22.55 to \$29.66; oxen and other cattle, from \$15.86 to \$22.79; and sheep from \$1.70 to \$2.75. The average value of mules has slightly decreased and that of swine only a few cents, yet it is true that the value of farm animals has shown a marked advance since 1895, both in the aggregate and individually.

"It thus appears that the increase in value of these products of the farm over that of 1895 reaches the enormous sum of nearly \$500,000,000—not a very discouraging fact for the farmers. Every practical farmer will notice that the figures representing values of farm products are very conservative, considerably below the actual amount received by them when they market their crops."

COMMENTING on the subject of local misgovernment the Chicago "Times-Herald" says: "The spoils system in politics is without doubt the greatest foe to democracy. The distribution of offices as rewards for personal or party service is fatal to good government. . . . Under our system there is formed in each party in nearly every large city co-operative political associations whose sole business it is under party names to work the offices for all they are worth. Their only interest in public affairs is to see what can be made out of them. While the people rally to party standards under great national issues, the political rings quietly devote themselves to the picking of pockets.

"The remedy for the spoils system in municipal government is the independent voter, who fortunately is growing in numbers and political influence at a marvelous rate. He will insist upon regarding a city as a business corporation, with business powers and existing for business purposes, and he will vote accordingly. The growth of this idea is the greatest menace of the spoils system and means its ultimate overthrow."

Perhaps the growth of this idea is accelerated by a growing knowledge among citizens generally of the fact that most of the so-called practical politicians are independent voters and workers themselves. However loudly they may preach party loyalty to keep the voters in line, they secretly practise political independence and party treachery whenever there is a chance to gain anything by doing so. For them all there is in party is what they can get out of it. The majority of citizens desire good government, although they hardly realize how much benefit there is for themselves in it. They want honest, efficient and economical management of municipal affairs. Party loyalty, however good in its place, prevails among them, and often prevents the overthrow of local misgovernment. But as they learn more and more of the secret disloyalty of the political ringsters the greater will be the number of independent votes cast.



Home-made versus Ready-made Spray Mixtures

Spray we must or give up the ghost, horticulturally speaking. If we let things take their own course insects and diseases will surely destroy most of our garden and fruit crops. The problems which we have to solve concern mostly the selection of spraying-machines and the preparation of the spray mixtures. In regard to the latter it cannot be repeated too often that the Bordeaux mixture, which is yet our standard spraying liquid, should be freshly prepared for every application. The mixture should not even be allowed to stand forty-eight hours before it is used. Chemical changes take place very rapidly and destroy its effectiveness. The experts also advise us to dilute both the copper sulphate solution and the milk of lime before we mix them together. I cannot reconcile with this direction the claims of certain manufacturers for the superiority of their ready-made Bordeaux mixture, which they offer in concentrated liquid form. I will trust the bridge that has carried me over safely before, but I will not trust these ready-made mixtures until the station experts assure me that such mixtures are reliable and as effective as the mixture freshly made at home from good materials. One of my neighbors has just sprayed his pear-trees with factory-made Bordeaux. I will watch the outcome; but in the meantime I am using Bordeaux of my own make, and feel safe.

Lime for Spraying

One of the difficulties under which I have been laboring heretofore in my spraying experiences is the poor quality of the lime which I was using. There is a great difference in the quality of different samples of lime, as any one who does much building probably knows. The lime I obtain in this vicinity is quite gritty, and does not slake well. We should take only the very best grade, such as will slake readily and perfectly. I am getting it now from some other source, and do not anticipate much trouble from the clogging of the nozzles. The Vermorel nozzle is rather delicate, and clogs easily. But we have now nozzles which seem to give a very good fine spray, but are much simpler than the Vermorel. I am using one called the "Dewey," which is simplicity itself, and thus far has given me good satisfaction. I also use the McGowen, which I like best for large trees and powerful spray machinery.

About Arsenites

The next question is what to use to kill insects. Paris green has been my main reliance for years, and with all its faults has done the business for me. There are a number of substitutes now offered and recommended. Among these we have arseniate of lead, arsenite of soda, arsenite of lime, paragnene and green arsenite. Without strong evidence of its effectiveness, I would not let any one of them take the place of our old stand-by, Paris green. Arseniate of lead has been used by the Massachusetts experiment station for the gipsy-moth. It has the advantage over Paris green that when used in large quantities it will not injure the foliage of the peach, cherry, Japanese plum or other trees of delicate nature. It is, however, more expensive, and its effectiveness in destroying the common insects attacking our fruit and garden crops is not so well proven as that of Paris green. I will not even take the space to tell here of its preparation.

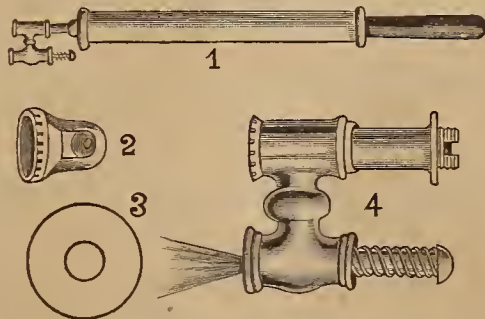
In arsenite of soda I have more faith; not because I have had satisfactory experience with it, but because it is highly recommended by the Ohio experiment station as "a cheap substitute for Paris green," and to be used in combination with the Bordeaux mixture. Used alone it is liable to burn the leaves in the same way as does Paris green. White arsenic in soluble form costs about one third as much as Paris green and gives no trouble in the way of settling. The easiest way to make the solution is to put two pounds of commercial white arsenic and four pounds of carbonate of soda (common washing-soda) in a gallon of boiling water, and keep boiling for about fifteen minutes, or until a clear liquid is formed, and then dilute to two gallons. One and one half pints of this solution to each barrel of Bordeaux mixture is sufficient to use when spraying for

potato-blight and potato-bugs, for apple-scab and apple-worms, or for any other purpose where a combination mixture for fungi and insects is required.

In order to be entirely on the safe side, before changing from Paris green to any other insecticide, I asked both experiment stations of my own state (New York) for an expression of opinion ex cathedra. From the station at Geneva I have not yet had a reply. The expert of Cornell university station writes me that "on many accounts Paris green is as satisfactory as any form of arsenic which can be recommended. There are, however, various substitutes for it which have given good satisfaction and are cheaper than Paris green. Perhaps the best of these is as follows: One pound of white arsenic and two pounds of fresh lime (slaked as for Bordeaux) boiled together in two gallons of water for twenty or thirty minutes. This forms arsenite of lime which does not burn the foliage and is effectual as a poison. The above quantities are sufficient for from two hundred to four hundred gallons when diluted. It may be used in Bordeaux the same as Paris green. This is considerably cheaper than Paris green, but whether one shall use it depends upon the circumstances of the individual case. Paragnene is a new compound said to contain fifty per cent of arsenic, in which case it should be, chemically speaking, as effective as Paris green. Arsenite of soda injures the foliage unless used with lime, and it seems to be less effectual in destroying insects than some other arsenic compounds. It is more expensive, at least if home-made, than the white arsenic-lime compound above referred to. On the whole I think the latter is perhaps the best substitute for Paris green unless it be paragnene or green arsenite. I have considerable hopes for the value of the two latter. I suspect, however, that these two compounds may be pretty nearly the same thing." This expert opinion was given me by Mr. H. P. Gould.

Some New Hand-sprayers

In our commercial operations we can hardly get our sprayers large and powerful enough. I have a strong barrel-sprayer, the Empire King, which carries two lines of hose, each with a double nozzle, and I must say it does good work. But when I have to spray large apple-trees in big orchards I prefer to use a still larger sprayer, one that has a tank of 150 gallons capacity, and a pump that will supply the McGowen nozzle with all the power that may be wanted. But I also need hand-sprayers. At least they often come handy in greenhouse work, in fighting insects on a few bushes or shrubs in the garden or on the



PARTS OF SPRAYING ATTACHMENT
1, Galloway hand-sprayer (complete); 2, ball-valve; 3, cap; 4, ball-valve and nozzle.

lawn, for spraying animals for flies and lice, etc. Prof. B. T. Galloway, chief of the Division of Vegetable Physiology and Pathology, has recently devised a combined hand-sprayer and syringe, the retail price of which should not exceed \$2 or \$2.50. It consists of an ordinary hand syringe, such as florists use, with an arrangement by which a Vermorel (or similar) nozzle provided with a separate intake may be attached. Ordinarily the plain syringes have a cap on the end containing numerous small orifices through which the liquid is forced in the form of fine streams. To change the syringe to a sprayer, a cap with a larger opening is put on in place of the usual one, and into it is screwed the Vermorel nozzle. The nozzle proper necessarily has a very small orifice, and to fill the syringe through this would require too much time, hence a larger opening is made and into this a ball-valve is fitted. This latter is so arranged that when the handle of the syringe is drawn up the liquid

is drawn in through the opening, and when forced down, the ball-valve closes the intake and the liquid issues from the nozzle in a mist-like spray. Any brass-worker can make it, and with ordinary care it should last as long as the syringe itself. The illustration shows the details of the arrangement. Another style of hand-sprayer, or rather atomizer, can now be bought for from 50 cents to \$1.50 each at general hardware and seed stores.

T. GREINER.

SALIENT FARM NOTES

Orchard Attention It is a good time right now to spend a few hours in the orchard. Examine the trees carefully at the surface of the ground and up the trunk to the branches and see if borers are at work. They can easily be found now. If they are tunneling the tree their castings, which resemble sawdust, will be found on the ground beneath where they are at work, and with a little experience one can locate them in a moment. Gouge them out and pack the wounds with a little grafting-wax. This is the best time of year to remove water-sprouts. They are soft, and one can cut them off with a pair of shears or a knife very easily and quickly. If the trees are in rich soil and growing well some of them will have fifty to one hundred water-sprouts shooting out of the larger branches, and there is no sense in permitting them to grow all summer and rob the fruit and fruit-buds of strength which should go to them. I notice that when these sprouts are removed this month they rarely start again, while if cut off at any other time of year from one to a dozen will start up about the stub. An hour or two spent in attending to these things now is time well spent.

Without Humus

A few days ago I called on a neighboring farmer and found him busy plowing. He had three powerful horses hitched to a sixteen-inch sulky-plow, and he was rolling the ground over at a lively rate. The land he was plowing had been farmed about thirty years, and during that time had been in grass two years. One could see at a glance that the soil was almost devoid of humus, and as it fell over it rattled down like stones. It was harrowed immediately after plowing and then planted. Before the corn came up a heavy rain fell, and that soil "ran together" and packed as hard as a road. The corn sprouted, but was unable to force its way through the packed soil. Another rain prevented harrowing, and the only thing he can do is to wait until the soil is dry enough, then disk and replant.

With Humus

In an adjoining field another farmer turned over thirty acres that had been in clover the previous year, yielding a crop of hay and one of seed. The clover was too badly damaged last winter to stand another season, so he plowed it over for corn. As this soil fell from the plow it lay light and porous. One harrowing fitted it nicely for planting. The heavy rain had little effect on it, the corn came up finely and there is an almost perfect stand. Originally there was no difference in the soil of these two fields, but one has had the humus farmed out of it, while the other has been kept well supplied with this important factor. Last year one of these farms yielded a bare thirty bushels of corn an acre, while the other yielded nearly sixty bushels an acre. Humus is the life of the soil and it can be abundantly supplied by means of the legumes—clover, cow-peas, soy-beans, etc.

The Solvent Bank

With such object-lessons as these constantly before them it would seem that owners of land, whether they till it themselves or lease it to tenants, would see the necessity of keeping that land—the bank from whence they draw their salary, in fact, their very living—filled with humus, which is only another name for fertility. If a man should deliberately proceed to destroy the bank in which were his deposits every farmer and land-owner would declare him insane; yet thousands of farmers and landlords are doing the next thing to it.

Fertilizers and Legumes

Experiments conducted by careful, painstaking men have demonstrated that mixed fertilizers, even of the best quality, are very expensive; that very often their elements are not available to the plant or will promote its growth. Thousands of pounds of leather-scrap are annually ground and mixed with the cheaper grades of fertilizers sold to farmers. Such fertilizers may analyze all right, show a good per cent of

nitrogen, but that nitrogen is not available to the plants, and, consequently, is of no real value. In market-gardening mixed fertilizers and barn-yard manure are the main reliance for fertility and humus, but the quantity applied to each acre is enormous, vastly more than any farmer could use with profit. By using the legumes—clover, cow-peas, etc.—the farmer can catch the nitrogen in the air and transfer it to the soil, enormous quantities of it, and such nitrogen is immediately available to the plant and therefore far more valuable than any to be found in mixed fertilizers, while its cost is next to nothing.

Cover Crops

It has been demonstrated time and again that bare soil loses its nitrogen rapidly, loses one of its most valuable elements at a rate that would make many a farmer heart-sick did he but know it. For this reason every farmer should plan to keep it covered with some sort of a green crop or some covering that will prevent washing and leaching in winter. When the wheat or oats are cut he can, if he farms no more land than he can farm well, turn the stubble down and immediately sow cow-peas or soy-beans and let them take possession of the land and keep possession until spring. While they are growing they will be pumping nitrogen into the soil, and all through the winter they will prevent washing and leaching, and when turned under in the spring will supply as much humus as a good dressing of manure. When we know that these things can be done and done at small expense, does it not stand to reason that we should do them?

Grow the Soil Rich

We must get closer to nature if we would keep our soil fertile. For thousands of years nature has been growing great crops and enriching the soil all the time instead of impoverishing it. We took the land, rich and mellow, and in less than fifty years converted it into lifeless clods. Verily, there is something wrong in our methods of tillage. The wrong has been in constantly taking from and returning nothing to, in stripping the surface of every atom of covering and leaving it exposed to beating rains and baking sun. Our methods of supplying the soil with humus have been clumsy, crude and laborious. We imagined that all vegetable matter that was returned to the soil must first go into the stables or stock-yards and be converted into "manure," possibly heaped up and turned over two or three times and well weighted with water before being drawn out and applied to the land. That we could grow the soil full of humus and fertility never entered our heads. Nature has been doing this for thousands of years, but we were too busy to discover that fact. The matter is but imperfectly understood even now, and thousands know nothing at all about it. But under our present system how could we expect them to? While we have been and are destroying the fertility of the land, we have been educating the people away from it—educating the farmer in everything but what he most needed to know.

Brain Instead of Muscle

We have farmed with muscle until we have impoverished our once rich soil and trebled the labor of tilling it. Now let us use our brains, and by means of the agencies we have at our command restore the soil to its former fertility and strength, and we shall again be able to grow the bountiful crops we did when the land was new. And at the same time let us educate the people to the land instead of away from it.

FRED GRUNDY.

GRANULAR BUTTER

The following method is employed for making butter which it is desired to keep for a considerable time. When the butter has reached the granular condition in churning, that is, when the particles are about the size of barley grains, the buttermilk is drawn off and ice-cold water added. The butter is then washed with cold water and removed from the churn to a stone jar without packing or mashing the grains. The jar is then filled with brine. This brine will soon dissolve some of the casein in the butter and so acquire a cloudy aspect. A change of brine will leave the second solution clear on the butter. A plate should be used to cover the butter, allowing the brine to come up over it. The brine, of course, intermingles freely about each granule of butter throughout the mass, which will preserve for weeks in this way. It can be taken out any time and worked up into rolls or prints. If too salty it may be washed out with clear water.

GUY E. MITCHELL.

OUR FARM

FARM THEORY AND PRACTICE

FLY IN WHEAT.—Crop reports and some knowledge of prevailing conditions last fall indicate that the Hessian fly is present in much of the wheat of the Ohio valley. This insect does much unnoticed harm every year, and occasionally the injury is so serious that general attention is called to it. Very often it causes the breaking of some straws before harvest, and the shrinking of grain in case of some stalks that do not fall, but the majority of farmers pay little attention to the damage, and if noticed, it is often not attributed to the true cause. The presence of the fly is easily detected before harvest, the larvae being near the lower joints of the stalk under the sheaths, where they sap the strength of the plant. When sufficiently weakened the stalk falls, bending near the point where the insect is at work. Then we have "straw-broken" wheat. In the greater part of the winter-wheat region there are two broods of this insect within the year. Early sown wheat in the fall attracts the fly, and the larvae hatched from its eggs in the fall become the progenitors of the larvae that do the serious damage in the spring. The only remedy for fly, or rather preventive, that has been suggested is late seeding. The egg-producing fly does not live many days, and if the wheat is not above ground while it is present there can be no disposition of eggs and no resultant larvae. But the date of appearance of the fly in the fall is somewhat irregular, and it is not always best to delay seeding until all danger is past, as the plants may not have time to make safe growth for winter. Reasonably late seeding in a well-prepared seed-bed seems to be the safest plan.

STABLE MANURE AND CHEMICALS.—There is a rational use of commercial fertilizers of which we probably hear too little, and that is the application of phosphoric acid and potash with stable manure in order that best and cheapest results may be gotten. The soil needs only a light application of stable manure when the two elements named are added to the soil. These are present in only small amounts in manure, and those that depend upon the home supply of fertilizer become accustomed to use heavy dressings on small areas. Smaller amounts of manure furnish the nitrogen and the humus, and an addition of the acid phosphate and potash furnish the other needed elements. It is a pretty well established fact in farming to-day that the average farmer cannot afford to buy nitrogen in commercial fertilizers, paying all the way from twelve to eighteen cents a pound for this element. He must get the nitrogen in clover, peas, stable manure, etc., and then buy only the two cheaper elements if needed. Those that have a limited supply of stable manure do well to make it cover more land than is the usual custom, adding the one or two elements that may be needed by the crop. This is far better than the dumping of the manure on a small acreage, and letting other land remain deficient in humus and nitrogen. The heavily manured land usually gets too much nitrogen. Make this element go farther by lighter applications of the manure, get the mechanical benefit from the manure on a greater area, and supply the lacking phosphoric acid and potash in the cheapest commercial forms—high-grade acidulated rock and muriate of potash.

THE CONTENTION ABOUT HOME-MIXING.—There is much dispute about the advisability of buying the ingredients of commercial fertilizers separately and mixing them on the farm. The advocates of factory-mixed goods assure us that only the scientist can compound a fertilizer in such a way that the costly nitrogen will not waste in the soil, but will be in such form that the needs of the plant will be met throughout the season. The advocates of home-mixing show by figures that their practice is profitable to them. But I wish to call attention to the fact that if we use clover, peas and stable manure aright we escape the necessity of having the costly nitrogen in the commercial fertilizer, and it is evident that this course must be pursued by the average producer of staple crops. Then is he unaffected by the facts in dispute concerning the value of factory-mixing. He wants phosphoric acid and potash, and he can buy them in their cheapest form wherever found upon the market. A factory may be willing to sell him the number of "units"

of the two elements that he wants in a ton of fertilizer as cheaply as he can buy the same amount in their separate forms and mix them. If so, he has a cheap fertilizer. If a factory will not do this, then he can order the amount of muriate of potash he needs, and likewise the needed amount of acidulated rock, and apply them separately to his land, or mix them in desired proportion on the barn floor by use of shovel and sieve. Chemical combinations, of which so much is made in the case of nitrogen, do not enter into the matter. It is mechanical mixing, whether done at factory or on the farm. He grows the nitrogen and nature makes her own combinations without charge.

DAVID.

HORSE COMFORTS FOR SUMMER

The dairyman has learned that judicious feeding and good care means increased profits from his cows. The poultryman at last realizes that his fowls must have comfortable houses, plenty of variety in food, a place in which to exercise, and a dust-bath, in order to carry on egg-production in a manner satisfactory to the owner. But the poor horse, the work-horse of the farm, usually receives little besides food, water and an occasional brushing off of the coarse dirt which covers his coat. The horse driven on the road receives better care simply because he is before the eyes of the public more. Yet all horse-owners will agree that the sturdy, faithful beast of burden of the farm, of all animals on the place, deserves good care. Given all the comforts of horse life and some of the luxuries, we still remain in debt to the faithful work-horse.

Every horse-owner believes that he knows when to water his animals, but not one in a dozen of them thinks about the subject enough to realize that some horses require more water than others or need water more frequently. The practise of watering horses engaged in heavy farm work between meals adds greatly to the comfort of the animals and makes them more willing in the performance of their tasks. Not any great quantity is necessary or desired, but a few mouthfuls to relieve the mouth and throat from dust just as you want a swallow or two from the spring between meals. Then there is the excellent practise, not so common as it should be, of using a sponge and water freely, especially on the parts of the horse covered by the harness, at the close of the day's work. One can scarcely imagine the comfort the cleansing of these parts gives to the horse, as well as the washing out of mouth and nostrils and the sponging of his neck and head. These are little things, but they go to make up the comfort or misery of a horse as they are done or left undone during warm weather.

The chief discomforts of the horse, however, are found in the dark and poorly ventilated stables, and especially on hot summer nights. The illustration shows how stables with door and windows can be arranged to provide good light and ventilation without admitting flies or mosquitoes, and all at a small expense. As a rule stables are too dark, and the cause of blindness in many horses can be attributed largely to being kept in dark stables. When brought into the light its brightness dazzles them and lays the foundation for what may later prove to be a very serious eye trouble.



FIG. 1

The illustration of the barn door, Fig. 1, shows that the door is made in two parts, a plan of construction quite popular in some sections. The screen frame is made of inch stuff, and is about three inches wide, braced at the corners. Upright pieces of the same material are screwed on, as shown in the illustration. The distance apart these upright pieces should be placed depends upon circumstances—whether there is danger from thieves, or if the horse should get loose in the

stable, breaking the netting with its head. In such cases the upright strips should be placed closer together, otherwise four over the space will be ample. The wire cloth or netting is used, which can be bought at hardware-stores at two cents a square foot, and varies in width from eighteen inches up. The screen is made to swing inside, and is bolted when closed. The upper half of the door proper swings out in most cases, and can be fastened to the side of the barn with

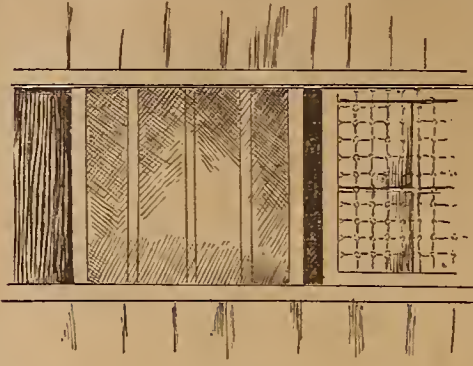


FIG. 2

hook and staple. In the event of a strong wind or rain storm this door can be closed and bolted from the inside without removing the screen.

Fig. 2 shows how the same plan of screening the windows may be carried out. Most barn windows are made to slide, so that in this case the screen is also made to slide, but in the opposite direction from the window. It is thus very easy to slide either the screen or the glass sash, whichever may be needed, over the opening. It will be noticed that the artist has covered the window of glass with wire netting such as is used in poultry-yard building. This is a good idea, especially if the window is in front of the

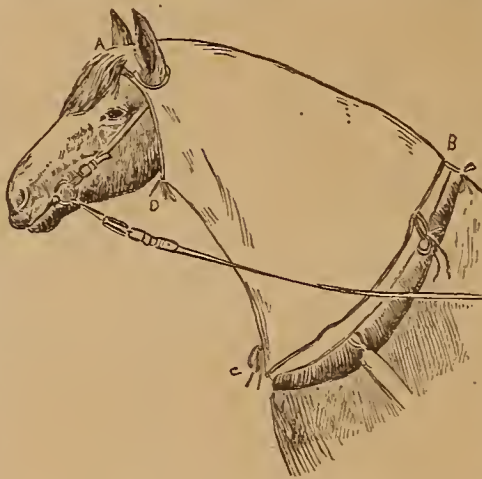


FIG. 3

horse where he can readily reach it, for oftentimes he will throw his head against the glass with sufficient force to break it, and usually cuts his face more or less.

At the small cost for materials necessary to construct these screens, which, if properly manipulated, will keep out flies and mosquitoes, there is no good excuse for stabling horses, or cows, either, for that matter, in airless, dark barns, where they are constantly hothoused with flies. Add to the small expense for material the little time and labor necessary to construct the screens and you have a comfortable stable during the summer, for which the animals would render you grateful thanks if they could but speak.

Most horses while at work during the summer suffer more or less from flies about the head and neck than on any other part of the body. With the swishing of the tail the insects can be kept off of the rest of the body, but to dislodge them from the head and neck requires considerable contortion on the part of the horse. The third illustration shows a protection that will work to perfection. Coarse unbleached muslin is used, and in cutting the cloth measurements are taken from A to B, allowing plenty of room for the movement of the head up and down, then from B to C, from C to D and from D up to A. Holes are cut amply large for the ears. The seam is on top of the neck and the opening underneath. The edges may be bound with alpaca braid (red looks well), such as is used for dress-binding, or if desired, the binding may be of the muslin. All seams should be reinforced. The appliance is tied with tape sewed to the muslin, and on the shoulders is fastened to the rings in the hames. In front it is tied at C and D, as shown in the illustration, and also at a point between if desired. The tape near B may have to be omitted, as some horses throw their heads so violently the tape will be repeatedly broken. From the illustration any woman can easily fashion one of these "summer comforts" at a nominal expense. Such an appliance is preferable to the one-piece blankets usually sold for summer wear and which cover the body entire except the legs.

GEO. R. KNAPP.

OLDER BEEVES AND PORKERS MORE DESIRABLE

A new condition prevails in the demands for live stock. In the previous decade the supply far exceeded the demand. The grain, grass and other provender from the farms could not then be converted into condensed products without loss by following the former practices. Until the last decade heaves were, as a rule, not marketed until past three years old or older. Swine were not considered fattened and ripe for food and lard until ten to fifteen months of age. Modern experience advised many that it was poor economy to continue feeding valuable grain to an animal when the period of its growth arrived that its gain in weight decreased continually. So the era of early maturity is upon us, and the amount of meat products is decreased annually because of this fully one fourth, and the value of the food to consumers is advanced on beef in the same proportion. With the increasing prosperity of the country the advance is likely to be much greater. Labor on the farm will be dearer as the factories absorb a still greater percentage of the available workers. Many will never abandon beef for a cheaper meat. As it becomes dearer they will buy less, possibly. It is evident that the supply should be increased. But poorer quality is not desirable. Self-interest is to be expected to actuate the farmer and stockman. When good young stock is scarce thirty head of good grade animals would better be grazed a year longer and fed more grain than to make the experiment of early maturity with an inferior larger lot of fifty.

Three fourths the number of swine fattened till a year old would lessen the number to be bred and reared and the risk to the herd from disease if this policy were followed instead of that which disposes of them when only eight months of age. M. A. R.

TRAINING TOMATOES

The tomato trained to grow upward instead of sprawling over the ground is of much better flavor, more ornamental, takes less room and is more satisfactory every way, either for the home or for market. We cull the following instructions from a letter from one who has tested the method most successfully: Drive a stake seven feet long (or a little less for some kinds) where the plant is to grow. Let nothing but leaves grow below the first setting. After you have one good setting of tomatoes let the plant "fork." That gives two main stems. Let no more shoots grow until at least two settings on each branch are formed. Then let them fork again. Keep all shoots below these trimmed off. Go over them carefully once or twice a week. After September 1st, as frosts are liable to occur, cut off unsparing all shoots and tops of main branches. Remember that at the base of each leaf comes out a branch. This stem at the leaf is the one to keep trimmed off. The blossom is on the main stem. This leaf sprout will sometimes come out again and must again be cut off. Only by severe trimming can the best results be obtained. Thirty-two good-sized tomatoes have been counted on one stalk at one time, and this after the bottom bunch had ripened and was gone. Plant as closely as three feet each way. The plant, if left on the ground, may cover ten feet and have fewer inferior tomatoes. Should early frost threaten, the staked plant can be protected by blanket till mature, which would be impossible on the ground.

VESTA C. TURNER.

BETTER THAN WHITEWASH

A serviceable paint for farm buildings can be made by thickening sour milk or buttermilk with Portland cement and metallic Venetian red or bright red paint powder to the ordinary paint consistency. I painted the outside of my barn (rough lumber) with this mixture six years ago, and also painted a few hoards with ordinary oil-paint as a check, and I cannot see now but that the milk-paint has preserved the wood equally well with the oil-paint. It has kept its color and shows no sign of age. This paint will not rub nor wash off like whitewash. The grease in the milk seems to have the fixing quality, as I tried using water with the cement and paint powder and found it rubbed off readily. For this reason I judge sour milk better than buttermilk, as it contains more grease. This sort of paint costs but little and can be mixed up instantly. It is very valuable for doing little odd jobs around the farm which might not otherwise get done. It is necessary to keep agitating the paint in the hucket, as the cement settles quickly.

GUY E. MITCHELL.



NOTES FROM GARDEN AND FIELD

THE FRUIT OUTLOOK.—Present indications point to the probability of a great abundance of all sorts of fruits, with the exception of peaches. Cherries have set fairly well; the crop of pears will be very large, although our older Bartlett orchards have bloomed unevenly and in some cases very sparingly. But the younger trees are full of fruit, and this seems to stick. We will have to resort to vigorous thinning again. Plums have bloomed fully, and promise a large crop. The apple-bloom has been very uneven. Many trees have had scarcely a blossom; others have had scattering bloom all through the trees or in a part of the branches, while another portion of the trees has been white with bloom. Here fruit on them has set well, and while there will not be a full crop, yet there will be a large output, because many of the younger trees have now come into bearing. We also find less injury here from bud-worm and canker-worm than we have had for years. We have learned to fear the full fruit crops, and fortunately this year's apple crop cannot possibly be even approximately as large as the phenomenal one of 1896. But it will be a wise thing for us to begin early this year in destroying the trash. The reports from the large fruit-producing sections of the United States are most flattering, and if the outcome is anywhere near what it now promises to be, we cannot hope to realize any profit from poor stuff. First of all, we must spray thoroughly in order to keep the foliage intact and healthful. Then we should learn to thin, and thin severely. There will be demand for all the good fruit which we can produce this year, and we should try hard to produce no other. I know that the lesson of severe pruning is a hard one to learn. To go into an orchard and strip off what appears to be promising fruit, leaving specimens several inches apart on a branch, when we possibly have to remove four or five for every one we leave, looks almost like vandalism. And yet it should be done, and be done promptly. Last season I undertook to thin a lot of Keiffer pears. I picked off more than three quarters of the specimens until the ground underneath the trees was completely covered with little pears. Yet when I came to harvest the crop I found that I had left three specimens where there should have been one; at that I would have secured more money for the fruit than I actually did receive if I only had shown the necessary courage to thin the specimens on each branch to six inches apart. In short, from my own previous experience in this line I am encouraged to do more thorough work in thinning fruit hereafter, and I am not going to wait very long, either. The surplus specimens should be removed as early as possible, long before they have had much chance to draw on the vitality of the tree. Save all the energy of limb and tree for what is to be left.

* * *

STRAWBERRIES at this writing look exceedingly fine, and when this appears in print will probably be in full fruiting. They promise the best crop in years. The season has also been uncommonly favorable for starting new beds. I find that it is a comparatively easy matter to keep a row or two, giving an abundant home supply, in fruiting for a series of years, and raise better berries the last year than the first. And when you once have a bed of your own it is a very easy matter to make a new plantation and get it well started early in the season. For instance, I begin at one end of the garden (the long way) and set one or two rows. The trouble usually is with the first supply of plants. If you can get them from a neighbor, freshly dug from a good, young bed, everything will be plain sailing, for you can get the plants just when you have the ground ready and in best condition for planting. But you may want several varieties and are perhaps particular about what these should be, and you may have to buy them at a distance and have them shipped to you by express. Possibly some of the plants were poor enough when they were packed, and they are still poorer after having been shipped, and perhaps been lying about waiting for the ground to be prepared, etc., and finally, when planted only a part of them will live and thrive, and these only do that after a long while. That has invariably been my experience with plants purchased from a distant plantsman. But how different and how satisfactory is the task of starting a new bed when you already have an older bed close by. After you have the one

or two rows off one side of the garden, you can add to the bed at your pleasure, and it will be pleasure to see how the young plants taken up from the bed and transferred to another (a new) row will take hold of the ground and thrive and make runners ready for a full matted row and for heavy fruiting another year. Of course, in deciding on the distance of setting the plants in the rows the particular variety will have to be taken into consideration. Some varieties are splendid plant-makers. Such are the Splendid, the Warfield and Haverland, etc. With the Splendid we might fill every inch of ground with plants even where the plants are set four or more feet apart. I have planted them this year four feet apart in the rows, and set an early cabbage-plant between each two plants. This is for double cropping. I get the cabbages, and will have them off the ground by August, and the strawberry-plants will form a matted row before winter—so heavily matted and wide that it will even then be necessary to narrow the plant rows down with a wheel hoe or other tool.

* * *

THE RENEWAL of an old strawberry-row should be promptly looked after as soon as the last berries are picked. If the ground is weedy it may be better to abandon an old patch and rely on the new setting. I can easily manage mine by plowing a furrow away from the row on each side, narrowing the strip of plants down to not over six inches, and then hoeing or spading out sections of the remaining square or cluster of plants every three or four feet; then fill in and up around these rows and clusters with old well-rotted manure and manipulate the soil with hoe, cultivator, etc., so as to make the surface level and smooth, and the bed may thus be left to form a new mat of young plants. Managed in this way a bed can be kept in good order for five or more years. If ground is weedy, however, the best thing that can be done after fruiting is to mow the old plants off and burn them when dry enough.

* * *

COS LETTUICES.—The Cos variety of lettuce are almost unknown to the majority of American home gardeners. Yet for all that they are interesting plants and useful for some purposes. They all have the one characteristic of close, upright growth, so that the hearts can be easily blanched and thus made to produce a very superior quality of salad material. I usually tie the tips of the leaves lightly together, thus inclosing the heart, as an aid in blanching. I can find no material or characteristic difference between the various sorts offered by seedsmen; so that, so far as the Cos varieties as a whole are concerned, "all coons look alike to me." But I had never thought of these lettuces as suitable for forcing. A week ago I received a sample plant from a reader in Iowa, who tells me that a neighbor has almost a monopoly of the trade in forced lettuce, because he has an upright, tall variety which can be grown quite closely in hotbed and which the consumers like better than the ordinary kinds. The neighbor, of course, would not tell the name of the variety, and so my friend sent the sample plant to me for identification. Possibly Cos lettuce may find favor with consumers of hot-house lettuce in other parts of the country, and with its close upright habit of growth, may be found very suitable for close planting in hotbeds and on the greenhouse bench.

* * *

PIE-PLANT AND ANTS.—A southern reader tells me that he has failed to start a rhu-barb-hed on account of ants making their hills near the roots of every plant and that he is very anxious to get a patch going. Various remedies have been recommended for ant depredations, such as turning boiling water or soap-suds into the hill or setting a wide-mouthed bottle into the center of the hill with top even with the ground, as a trap for the ants, etc., but I believe the best and surest way to get rid of ants and ant-hills is to punch a hole six inches deep into the center of the ant-hills and then pour a teaspoonful (or more) of bisulphid of carbon into the hole, afterward quickly closing it, so as to confine the fumes in the hill and let them do their deadly work. The stuff can be had at any druggist. It is not (or should not be) expensive, but must be handled with care, as it is very inflammable. It is a good remedy for other insect enemies also, and, indeed, a specific for the pea and bean weevils (in seed stock). To apply it properly for the cabbage-maggot an injector has been devised and is being offered by the trade. It puts a small quantity just where it will do the most good; that is, near or right under the root of the young plant.

T. GREINER.

PECANS

Pecan seedlings are grown in the same manner as seedlings from acorns, chestnuts or peach-seed. The nuts should be wintered over in a cool, moist place, free from extremes of heat or cold, until after the frost-period in the spring. Prepare a fertile spot, and plant the nuts two or three inches deep, and keep the soil moist but not wet. The nuts, if sound or not destroyed by some enemy, should sprout in the course of a few weeks. Keep the soil free from weeds and the ground in good tilth after the sprouts are up.

It would be well, especially in a cold climate, to protect the young trees the first season. Set the trees where desired when young, as the pecan does not stand transplanting well. It would be well to plant the nut where the tree is desired if convenient to do so.

Texas is the banner state of the Union for pecans. Nearly every stream in Texas has on its banks a great number of native pecan-trees. The pecan loves the loam soil of creek and river bottoms, where the roots can penetrate into the moist earth. The pecan does best in a sandy soil, but does well anywhere the hickory thrives. The pecan belongs to the same family as the hickory-tree does, and they are both very similar in shape, size and habit of growth.

Very little attention is paid to pecan culture. The nuts are obtained almost exclusively from native wild trees. Cultivation, however, improves both the tree and nut. Little attention is paid to varieties. There are, nevertheless, a great many different kinds of pecans among native trees. There has been imported of late years the paper-shell pecan. The nuts are larger than native varieties, of excellent flavor, and the shell so thin that it can be easily crushed between one's fingers.

Pecan-trees begin to bear at about twelve years of age. Large trees frequently yield as much as fifteen bushels in one season. They do not bear full crops every year and are barren some years. Some trees never bear, while others are very prolific and almost constant bearers. A constant bearer, however, is not so prolific, as a rule, as one that does not bear every year.

The producer, or rather the gatherer, gets from two to five cents a pound for nuts. The retail price varies according to proximity to pecan sections. The best varieties rarely get very far from home, except as presents to friends. From ten to twenty dollars' worth of pecans are frequently gathered from one tree, which, away from pecan sections, would be two or three times that amount.

The pecan is a highly prized nut even where it is native and abundant, and more wholesome than most nuts. It is plentiful only in a few sections of the United States, but may be grown in many others.

JOHN C. BRIDGWATER.

2

ORCHARD INQUIRIES

ANSWERED BY SAMUEL B. GREEN

Rose-chaffer.—J. W. M., Linwood, Ohio. I think that your monthly rose was probably injured by some beetle or possibly by the rose-chaffer. This latter insect is often very injurious and is not easy to kill with Paris green, but a little attention to the plants early in the morning of each day in the shape of picking off the bugs will soon relieve you of them. In a small way hand-picking is much more successful than any insecticide that can be applied. If you will send specimens of bug causing injury I can advise you better.

Old Sawdust and Chips.—B. M. S., Stull, Pa. Chip sawdust which has been in a pile for six or eight years should be so thoroughly rotted that it would be a good fertilizer. I should put it around fruit-trees, etc., using about one to two bushels to the square rod. The sawdust from hard wood is very much more valuable than that of pines as a fertilizer, the pine sawdust being of comparatively little value as a fertilizer. Fresh hard-wood sawdust may often be used to advantage around currant and gooseberry bushes as a mulch, and does not injure the soil, while if fresh pine sawdust is used for this purpose it is liable to injure the soil for a number of years. In small quantities, however, there will be no danger from such injury.

Staminate Grape-vine.—E. B., Flint, Mich., writes: "I have a male grape-vine, the name of which I do not know. Every year it blossoms full, but bears no fruit. What is the matter, and what shall I do for it?"

REPLY:—In the wild state all over this country there are both pistillate and staminate grape-vines. Some of them of the non-fruiting (staminate) have been brought into cultivation for use in arbors where fruit is not desired, where all that one wishes is to get a strong growth and plenty of leaves. These

vines seem to produce a larger amount of foliage than the kinds which are fruitful. There is no way of making these non-fruiting vines produce fruit except by grafting, and this at best is rather uncertain in the hands of a novice. If, however, you have been successful in grafting other plants you could probably succeed with the grape if you graft early in the spring before the sap starts, and put the union below the surface of the ground. However, I think it would be very much better for you to plant a new vine of some approved variety than to bother with this old one.

Unthrifty Trees.—E. S., Portland, Oregon, writes: "Please tell me what I can do for my almond and walnut trees. I planted them two years ago in new clay soil fertilized with manure, ashes and lime. They came out fine after planting. A few months later they began shriveling up, after which I pruned them back, which seemed to promote new growth. This spring they are as bad as ever, don't grow any, and seem all dried up to the stock. They were about three years old when planted out. The ground is rather rocky, on a hill-side."

REPLY:—The case is a peculiar one, and I am not certain as to the cause of injury, but should think it might be caused by some insect that worked on the roots. If so, it will probably disappear after a year or so. It often happens on newly cleared land that the insects that caused but little damage to the native trees may injure seriously the few trees that are planted out. It was probably unnecessary to put manure or fertilizer of any kind on your new clay soil.

Late-bearing Apples.—A. T. N., Fairfax, Vt., writes: "Please tell me what the matter is with some of my apple-trees, and what to do for them. They have been set from ten to fifteen years, and seem to be strong, healthy trees. They grow well and put forth an abundance of leaves, but no fruit or blossoms, while other trees in the same orchard and taken care of in the same way bear fruit to my satisfaction."

REPLY:—There are some trees that come into bearing very young and others that do not bear at all until they have been set for some time, and this will be true of the variety on almost any soil. Other varieties come into bearing quite early on some soils and are late on others. Some varieties are so late in coming into bearing, and bear such small amounts of fruit, that it does not pay to grow them at all. You do not say what varieties have failed with you. If, however, they have been planted a considerable length of time, say ten years, and have failed to fruit, I think I should girdle them in this way: With a saw run around the tree, cutting through the bark into the wood in two or three places. This will not seriously injure the tree and will probably encourage it to set fruit-buds. This should be done before the last of June. I have experimented quite a little in this way in bringing into bearing some tardy bearing varieties and have found it quite successful. It is necessary, however, that you have a good clean cut through the bark. If your saw is very fine it may be best for you to make two cuts, taking away a ring of bark perhaps three sixteenth inches wide. If, however, the bark is smooth and thin it will not be necessary to do this.

Using Commercial Fertilizers.—W. T. D., Abilene, Kan., writes: "In your May 1st issue it is stated that commercial fertilizer for young fruit-trees should not touch the roots. Now, I should like to use muriate of potash and nitrate of soda. My method of watering trees is by a piece of gas-pipe running down to the roots. When they are a little larger I purpose using five-inch tiling, extending below the surface say eighteen inches, filling with water and letting the roots draw the water as they require it. I want, at the same time, to feed the above fertilizers. If there is anything wrong about this method I would like to know it before I begin, as I have some very fine fruit that I don't care to lose. I want to rush the growth of the trees."

REPLY:—If you are going to use muriate of potash or nitrate of soda around trees, the best way to apply it is broadcast to the surface of the ground. These salts are so quickly soluble that they do not require to be placed deep in the ground. In fact, if they are placed deep they are likely to be washed out of the reach of the roots, especially so in sandy soils during rainy weather. You should use nitrate of soda at the rate of 125 pounds to the acre several times in the growing season. Muriate of potash should be used at the rate of 300 pounds to the acre, applied in spring or early autumn. If you wish to use them in solution you could apply them at the rate of one ounce to a gallon of water. Stronger solutions than this are liable to cause injury to weak plants, although to well-established trees there would be little danger if the solution were double the strength. The plan of inserting a five-inch tile into the ground near the trees for use in watering is a very good one, since it prevents the water from running off from the surface and gets it into the place where it will do the most good. In your section there is very little necessity of using commercial fertilizers, since stable manure is so abundant and tankage can be obtained at such reasonable prices. But if you wish to use them to experiment with the above directions would apply.



Conducted by P. H. Jacobs, Hammonton, New Jersey

SUMMER AND FALL CHICKS

SUMMER chicks bring good prices late in the fall, and should weigh about five pounds a pair. Those hatched late in the fall seem to cease growing as the cool weather sets in, and are usually small but compact in appearance. They look leggy enough for awhile, but after a time they cease growing entirely, as if growth was dormant during the winter period. They remain in this semi-dormant condition as long as the cold weather lasts. As soon as spring fairly opens they start off very rapidly, not only growing in height but in thickening and rounding. They might be truthfully called "spring" chickens, for, although hatched late in the fall, they grow in the spring. All well know that early chickens bring the best prices. That there is more profit in a batch of chickens that are in the market before it has been stocked is a fact not necessary to mention. And why may they not be hatched in the fall as well as in February or March? The chickens will need care if hatched in the fall, and it may be a little expensive and troublesome, but when we compare these disadvantages with the loss arising from hatching in the spring (when the thermometer is down to zero) among the very young ones it is doubtful if there is anything in favor of spring hatching. When hatched in the fall the loss from the young chicks is not so great, and they feather before for the cold months. They can be sold at any time, and will bring good prices. It will not do to hatch chickens late in the fall unless one goes about it systematically. To use the Brahma is to run into winter with a naked chicken, and the Leghorn will look too much like a diminutive adult. The Game is good because it is slow of growth, but the Game is not a hardy chick (though able to endure any weather when matured) and cannot go through a severe winter. The most profitable method of breeding for fall chicks that are to be kept over for this purpose is to cross Plymouth Rock cocks on the common barn-yard hens, if the hens are hardy, and thus cross two hardy kinds, and the cock will add size. One should endeavor to gain two points in the fall hatching: First, slow growth; and second, hardiness. Use judgment in crossing, feed well, and give warm quarters. Then watch your market and bring them in at the proper time. The pure-bred Plymouth Rock is an excellent breed and superior to cross-bred birds, but farmers will not discard their entire flocks for them.

The greatest loss of chicks occurs from diseases of the bowels. When this appears the cause is attributed to the food, and the attempt is made to save the chicks by all manner of feeding, but the real cause of howel disease is usually cold on the bowels, due to lack of warmth. This cold does not come from prolonged exposure or from lack of warmth during the day, but from the failure to supply warmth at night, at which time the chicks are quiet and do not have the aid of exercise. A single night's exposure or even an hour to a temperature that will cause the chicks to crowd will bring on howel disease. When the whole brood is attacked by it the chances of saving the chicks are very slim, as they seldom fully recover, or if they pass a critical stage of difficulty they seldom amount to anything afterward. In raising chicks for broilers, therefore, the main condition is warmth, it being essential for very young chicks even in summer, as sometimes there are cool nights.

Many poultry-raisers have noticed that in feeding early chicks for market they may, by a system of high feeding, force some chicks to two pounds in ten weeks, yet the majority require three months to attain that weight. Sometimes more feed is eaten by the chicks in those extra three weeks than is used in ten weeks of ordinary feeding. Hence it is economical to feed the growing chicks all they will eat three times a day after they are six weeks old, hence the greater the quantity consumed the more rapid the growth, and as a consequence they will reach the market earlier. There is nothing saved by trying to make a small quantity of food go as far as possible. Feed liberally, but do

not waste. Feed very young chicks four times a day, but do not force them. Late chicks require but a moderate supply, as they can forage to large extent.

2

INCUBATORS IN WARM WEATHER

There is a profit in incubators in summer if they are properly managed. Great care must be used to prevent overheating. An incubator with several hundred live eggs in it on a warm day contains much heat, and one could readily overheat and kill half the chicks even if there was no lamp near the incubator. There should be enough ventilation to carry off all the surplus heat made by the chicks, and at this time the incubator may require more moisture than at any other season of the year, or at any time during the hatch. A good guide for the correct amount when hatching during warm weather is to have all that the machine will bear and still not have so much that the chicks will not dry off when they come out. Chicks should be dry in one hour after they are hatched. One could so saturate the machine with moisture that the chicks would remain wet, but that is too much. It will not only prevent some from hatching that would otherwise get out, but it will cause the machine to become foul. During the last few days to have all the machine can have and not have enough to prevent the chicks from drying off nicely after they get out is the proper point. Some use no moisture at all until just about hatching-time. This will bring out more chicks than the other way, and experiments show that in some cases no moisture at all is necessary. After the chicks are out be careful not to crowd them. It is best to put about twenty-five or thirty in a lot and let them lie quiet until they get old enough to eat. That will not be until the end of twenty-four or thirty-six hours; then feed them. Feed but little for the first day or two; they do not need much at first. Give fresh water from the start in warm weather, but not in cold weather. The chicks are liable to get wet and do themselves injury if proper precautions are not taken to protect them. On a warm day during hatching-time the incubator should be attended to quite frequently, as there is danger of overheating the eggs, and by observing often it saves all that would be likely to perish.

3

FLOORS OF POULTRY-HOUSES

Wood is the best material for a floor, but a wooden floor is liable to become a harboring-place for rats, unless it is well closed underneath or raised sufficiently to allow a cat or a terrier to run in and out under it. When this is done the cold air comes up into the poultry-house in winter and makes the wooden floors objectionable. Cement is better, for it not only prevents vermin from entering, but also the drafts. The cheapest way to make such a floor is to take one harrel of lime, two of sand, one of fine gravel, one hushel of cement and two gallons of liquid coal-tar. Mix the ingredients dry, then add water, and spread evenly on a hard surface which has been graveled. The coal-tar may be brought to a consistency with coal-oil. It assists the cement and colors it. Let the floor remain undisturbed for twenty-four hours, then add another coating in order to stop the cracks. To clean such a floor first dust it well with dry dirt, plaster or sand. A mixture of road dirt and plaster, equal parts, is the best. Dust it over every portion of the floor, and dust it over the walls and in the nests. Three times a week take the broom and sweep the floor, dusting again after sweeping, and it will be surprising to notice how easily and nicely a poultry-house may be cleaned out in a few minutes. Another advantage is also secured, which is that the droppings will need no preparation for preservation, as it will only be necessary to put them in an old flour-harrel and keep the harrel under cover. Such a method gives lice but little chance for securing possession, and no disagreeable odor is at any time manifested, while the work can be done much better than with the shovel, spade or hoe. If an earth floor is preferred underlay it with one-inch wire mesh.

SYMPTOMS OF CHOLERA

Cholera frequently prevails in summer, but many diseases are ascribed to cholera through ignorance of the symptoms. The first symptoms of the disease are, in the majority of cases, a yellow coloration of that part of the excrement which is usually white, quickly followed by violent diarrhea and rise of temperature. Other common accompanying symptoms are dropping of the wings, stupor, lessened appetite and excessive thirst. Since the disease is due to a specific germ it can only be introduced into the flock by fowls from infected premises. When the symptoms of the disease are noticed the fowls should be separated as much as possible and given restricted quarters, where they may be observed and where disinfectants can be freely used. As soon as the peculiar diarrhea is noticed with any of the fowls the birds of that lot should be changed to fresh ground and the sick ones killed. The infected excrement should be carefully scraped up and burned and the inclosure in which it has been scraped should be thoroughly disinfected with a one half per cent solution of carbolic acid, which may be applied with an ordinary watering-pot. Burn the dead birds. The germs of the disease are taken into the system only by the mouth, and for this reason the watering-troughs and feeding-places must be kept free from contamination by frequent disinfection with the solution mentioned. Treatment of sick birds is of but little advantage under any circumstances. The disease runs its course, as a rule, in one, two or three days, and it can only be checked with great difficulty. The majority of supposed cases of cholera are really due to indigestion.

4

FEEDING GRASS TO POULTRY

If fowls are confined they cannot secure grass or other green food. When running at large they gather much about the farm that serves for food. But fowls can be fed on grass by giving it to them in the yards just as well as if they gathered it themselves, only the manager should chop it fine in order that they may eat it conveniently. A small patch of white clover is an excellent thing to have near a poultry-yard, and if, when sowing the clover-seed, it is mixed with one half its bulk of lawn grass the mixture will be all the better. In the fall sow a small piece of rye which will give an early gathering, and a few square feet sowed broadcast with a mixture of mustard, radish, lettuce, kale or rape come in finely for feeding at a later period. In winter good clover hay should be cut into a fine condition, steeped in warm water, and the mixed mass thickened with meal and bran and then fed. But in summer the fowls need a supply of green food more than at any other time, for exclusively grain is too heating for them. It is more economical growing the green stuff on a separate place and feed it in the yards than to allow the fowls to roam and destroy it before it can be utilized. Grass will support a goose without grain at all, and poultry will thrive on it with very little assistance in the shape of other feed if the green stuff is of a variety and in a fresh condition.

5

INQUIRIES ANSWERED

Poultry-netting.—H. J. G., Pomonkey, Md., writes: "Please request some of the readers to give their experience in putting up poultry-netting (fence, etc.), as I have difficulty in getting mine properly stretched."

REPLY:—There are tools for that purpose. Suggestions from readers will be welcomed.

Langshan Chicks.—E. R., Alton, Ill., writes: "I procured a sitting of Langshan eggs from a breeder and the chicks are mixed white and black in color. Are they pure bred?"

REPLY:—That is correct for the chicks of all black fowls. They will soon lose the white and become entirely black.

Forcing Too Rapidly.—J. S., Seueca Falls, N. Y., writes: "My chicks, four to six weeks old, lose the use of their legs, cat on their sides, live in this condition several days, and die."

REPLY:—You should have given details of management. Probably you are forcing them too rapidly with concentrated food and feeding too often.

Testing Eggs.—J. V. S., Catlin, Wash., writes: "Is there any way of testing eggs for sitting? If so, how is it done?"

REPLY:—There is no way of testing them to know if they will hatch until they have been incubated for a week or more. Experts, however, test on the fourth day. Hold each egg to a strong light, in a dark place, using a cone made of a newspaper. The clear eggs should be removed; the dark ones will probably hatch. You should procure an egg-tester from some poultry-supply house.

Colds.—D. N. R., Gordonsville, Va., writes: "My fowls have always been well, but some of them sneeze, breathe with difficulty and have a rattling in the throat. They do not refuse food, but seem well otherwise. They have a good house, but probably a small opening in the door may be the cause."

REPLY:—Your suggestion is correct. The draft of air is at fault, and probably the birds are liberally fed, which makes them more susceptible to the cold draft. Give a few drops of camphorated oil once a day, also injecting a drop in each nostril.



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THE CULTIVATION OF HOPS

THE hop-plant stands for many years and increases in productiveuess annually if properly cultivated and fertilized. It is propagated from roots, and planted in the spring on a ratio of nine female to one male vine. In the Yakima valley, Washington, the hop reaches the highest perfection under intelligent irrigation. The state product for 1898 was 37,500 bales, a majority being grown in this famous valley. Hop-yards here range from five to forty acres, the average being probably ten acres. The cost of cultivating, harvesting, drying and marketing is from five to eight cents a pound. Last year hops sold at the houses for twelve to seventeen cents, thus giving the growers a good margin of profit.

little profit in it. Take the orange business, for instance. The boom advertisers would have you believe that you could buy land at almost any price and on any terms, and when once set to fruit you would have little to do but rake in a certain yearly income. The fact is the cheapest orange land is worth \$250 to \$300 an acre, in its wild state; then comes leveling and adapting to irrigation; for you cannot raise oranges without plenty of water. Perhaps you have got into a solid and permanent water district, perhaps not; some legal fight may take the much-coveted fluid to other orchards and you are left. But you may not meet with any such misfortune and your orchard comes into bearing. Then instead of it being a joy forever it becomes the cause of perpetual anxiety. Heavy north winds sometimes shake off thousands of dollars' worth of fruit. Freezing is frequent and much to be dreaded; few if any orange-growing dis-



HOP-YARD IN YAKIMA VALLEY, WASHINGTON

Buyers offered eleven cents for the 1899 crop, and advanced money to grow the hops on that basis.

A hop-yard resembles a well-kept vineyard, having straight poles six feet apart extending ten feet in the air. These are usually of red cedar sawed two by four inches, driven into the ground at each hill and held together by a network of smooth wire trellises about eight feet above ground. The cultivation is about the same as for corn, weeds being kept down and irrigation water supplied twice in a season. The poles are taken down at harvest-time and reset every spring. Hops are generally picked in Washington by Indians, who collect around the yards by thousands. An acre will produce from 1,200 to 2,000 pounds, the yield varying with soil and general care in cultivation. The hops are picked and placed in boxes holding about ninety pounds each, pickers receiving one dollar a box. A good Indian will fill two boxes a day.

The cost of planting a hop-yard is pretty heavy and the annual expense ranges about \$100 an acre. A dry-house is one of the necessities of every hop-yard. This costs from \$300 to \$500 completed and equipped with heating apparatus and drying-shelves. The hops are packed in sacks like wool and shipped to the hrewing centers, where a ready market is obtainable. Some of the Washington hops are shipped to Europe. The chief insect that feeds upon the hop-vine is what is known as the louse. This can be easily exterminated by spraying with arsenical solutions. Hops grow best on a deep sandy soil where there is a subsurface cobble drainage. The soil must be well prepared by thorough plowing, harrowing and leveling before roots are planted.

JOEL SHOMAKER.

EXTRACTS FROM CORRESPONDENCE

FROM CALIFORNIA.—The East has been flooded with printed matter advertising southern California in glowing terms. As a rule no dependence can be placed in the statements made. They may contain much of truth, they may also contain just enough of exaggeration to induce some Eastern farmer to sell out and come to California, only to learn at considerable expense that even this is not a perfect paradise. In the matter of fruit-raising, land has so advanced in price (with a corresponding tax rate) that there is

tracts escape it entirely. Then if you finally get a crop you have to look out for thieving commission men and low prices. However, this may be considered as the dark side. Money is made in oranges, but it is an investment for the rich; a poor man had better not dabble in so uncertain a product. The same factors that operate against orange-growing affect in some degree the raising of deciduous fruits. True, money has been made in deciduous fruits, the successes, no doubt, have been duly advertised, but the thousand cases of losses and disappointments and failures have not found their way into the descriptive matter sent East. Farming, dry ranching especially, has been a losing occupation for several years; low prices in good years and drought in bad years have kept the farmers on the anxious seat. Would I advise any one to come to California? That depends. If I had a good home and was making a good living in the East, I would not think of coming to California. If I had from \$4,000 to \$10,000 in cash I would sooner invest it in California than in the East, but I would not advise any one to so invest through land-agents, or even on their own investigation. A wise, good friend, one of absolute probity and integrity, and who has spent years in this country, is the best, almost the only safeguard against deception by interested parties or by yourself. There are lands in the valleys within ten miles of here held at \$50 an acre; there are government lands in the foot-hills less than five miles from here subject to homestead, and these last will raise all and more than the \$50 land. This is not taken because land-agents want to sell land, not to secure homesteaders. Some of these lands make really ideal homes. You can raise wheat, fruit, poultry, bees, and to those who have some means I would not hesitate to say they cannot lose by securing one of these foot-hill homes. The climate is as near perfect as any to be found—dry, clear, warm, life-giving, especially to those who have lung trouble. Nearly all diseases are benefited, many cured. Winchester, Cal. T. S. B.

FROM IOWA.—The land here is mostly rolling, and the soil is black, loose and very productive; in fact, crops never fail. The drought has no terrors for the Iowa farmer; on the other hand we can stand all the rain that Mother Nature sends us. We have plenty of good water. Coal and wood are plentiful and cheap. Land sells at from \$30 to \$60 an acre. Your foreign correspondences giving accounts of farming in Hungary, Montenegro, China, etc., is very interesting, and I would like to have a description of the rural life of other foreign countries. M. B. Montezuma, Iowa.

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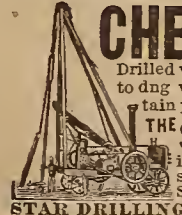
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QUERIES
READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least TWO WEEKS before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

To Drive Away Cabbage Pests.—C. L. B., Bentonville, Ark., writes: "With eight quarts of corn-meal mix one pint of turpentine, and let stand over night. In the morning you will find this mixture reduced to a fine powder. Of this apply on each large cabbage-head one small thimbleful, smaller plants in proportion, when the dew is on. Repeat this three times during the season, and no insects will bother your garden-truck. It doesn't kill, but drives them away. Corn-meal is used so as to prevent the burning of the plants by the turpentine."

Pickles—Paris Green in Bordeaux Mixture—Forcing-house—Onions.—A. S. Waupaca, Wis., writes: "How many bushels of pickles will grow on an acre?—I want to use Bordeaux mixture on potato-vines. How much Paris green should I add to forty-five gallons?—How wide should I build a cucumber-house for winter forcing, and how high at eaves?—Is there an onion that will mature for market from seed or sets to get off the ground in time to plant for pickles?"
REPLY BY T. GREINER:—Pickle-growers around here used to consider 100,000 pickles, each three to six inches long, an acre a good ordinary crop. Twice that number can be grown on good land and under good culture.—You can use from one half to three quarters of a pound of Paris green to your forty-five gallons of Bordeaux mixture. Some people use much less, but I like to see the bugs die promptly, and the larger quantity of the poison does no particular harm to the vines.—Build the forcing-house as wide and high as convenient. I like the eaves low, not over three feet from the ground. House may be eleven or twenty feet wide.—You can clear off bunch-onions (from sets or early plants) in time to grow a crop of pickles.

Millet.—J. P., Florence, N. J., writes: "I have a plot of ground which I want to sow in clover next summer, to plow under the following spring. I want to plant it in millet this spring for hay. What time should I plant the millet so as to cut it in time to sow the clover? At about what age of the millet should I cut it to make the best hay? How much millet-seed should I plant to the acre (the ground somewhat light) to make the best hay?"

REPLY:—Millet, like corn, is a sun plant. It may be sown any time after the corn-planting season has arrived. About sixty or seventy-five days are required to bring it to the heading-out stage, when it should be cut if intended for hay. If allowed to ripen seed the feeding value of the straw is very much lessened. Prepare the land as for oats, broadcast the seed at the rate of three pecks to the acre, and cover with a smoothing-harrow. German millet is a standard, productive variety that makes excellent fodder. It can be cut for hay in good time to seed the land to crimson clover, to be plowed under the following spring. Harrow in the clover-seed, and get it well covered. Deep sowing on light soil will insure a crop in seasons when surface-sowing will result in failure.

VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least TWO WEEKS before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to Dr. H. J. DETMERS, 1315 Nell Avenue, Columbus, Ohio.

NOTE:—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

A Hard Swelling on the Jaw.—G. W. D., South Prairie, Wis. If you will describe the "hard bunch or lump upon the jaw of your calf" I may be able to answer your question.

A Fistulous Abscess.—A. Y., Bruin, Pa. What you describe is a fistulous abscess, which will be brought to healing only if examined, probed, operated and then treated by a competent veterinarian perfectly familiar with the anatomy of the parts affected.

Garget.—J. N., London, Ohio. You say your Jersey cow has a caked udder once every week or ten days. Milk thoroughly and oftener, say three times a day at regular intervals of about eight hours, and you will have no more trouble and even gain in getting more milk. Do this every day.

Dog Coughing.—F. N. D., Shell Beach, La. Coughing in dogs as well as in other animals and in human beings is a very common attendant to, or symptom of, a majority of all respiratory disorders and is observed in all such in which the larynx is directly or indirectly irritated, consequently no diagnosis can be made if only this one symptom is given.

Lumps and Pimples.—T. Y., Williamsburg, Mo. If the swellings which you call "lumps" are, as you say, "under the skin," and the "pimples" in or on the skin, I cannot answer your question, for I cannot make out from your description what the disease, which, you say, has existed for over a year, and therefore is chronic, may be. An examination probably would soon reveal its true nature.

Cataract—Periodical Ophthalmia.—E. W., Calhoun, Tenn. The white speck in your horse's eye is a cataract either in the capsule of the crystalline lens or in the lens itself, and the repeated attacks of first one eye and then of the other indicate periodical ophthalmia. Whether the cataract, which has existed for two years, is the product of previous attacks of periodical ophthalmia (most likely) or of other causes is difficult to decide, and is immaterial. Concerning periodical ophthalmia please consult numerous answers given in recent issues.

Gleet.—L. A. S., Maysville, Mo. There is no such a disease as gleet; it is a term never used by an educated veterinarian, but often applied by empirics to the first stages of glanders when they are somewhat in doubt in regard to the diagnosis and want to hedge. If then the disease afterward is diagnosed to be glanders, they will say that the "gleet" has developed into glanders, and if a different diagnosis is made by a veterinarian they will say that they knew it was not glanders. As glanders is a very contagious and fatal disease, and can also be communicated to human beings, I most decidedly advise you to have your horse examined by a competent veterinarian, or if you have in your state a state veterinarian, to inform him at your earliest convenience, and to keep the horse strictly separated until a reliable diagnosis has been made.

Worms—Warts on the Eyelid.—T. E. A., Cronly, N. C. Concerning your horse passing worms please consult answer given in this present issue to E. B. M., New Brunswick, N. J. Whether the worms constitute the sole cause of the unthriftiness of your horse or not I cannot decide from your statements.—Warts on an eyelid, usually sessile, are best removed by painting them over once every one or two minutes with a concentrated solution of corrosive sublimate in very strong alcohol by means of a short camel's-hair pencil until the whole wart has become covered with a uniform white layer of the sublimate. To do this requires a very steady hand, because great care must be taken to bring the corrosive solution in contact with nothing but the wart. If any of it should get into the eye it might destroy the eyesight. Consult also answer given to W. L., Downey, Idaho.

Warts in the Ear.—W. L., Downey, Idaho. If the warts in the ear of your horse have a plainly developed neck, the same are best removed by means of a ligature drawn as tightly as possible and as close to the skin as it can be done around the neck. If the warts are small, a strong silk thread (heavy surgeons' silk is the best) will answer, but if they are rather large, a so-called waxed end, as is used and prepared by shoemakers, is to be preferred. If the warts are sessile (flat and spread out) a ligature cannot be applied, and in that case it is best to paint them over once every minute or two with a concentrated solution of corrosive sublimate in nearly absolute alcohol until the whole wart has become covered with a white layer of corrosive sublimate. Care, however, must be taken to bring the solution in contact with nothing but the wart. If the warts are not small it may be that the treatment has to be repeated in a few days.

So-called Pinworms.—E. B. M., New Brunswick, N. J. The term "pinworm" is usually applied to signify the mature form of a parasitic worm of horses, known as *Sclerostomum equinum*, or *Strongylus armatus*, when passing off through the rectum. When in this condition the worm has already done all the damage to its host it is capable of doing. It has been done while it was in its immature or larval form and inhabiting a branch of the posterior aorta, usually the branch known as the anterior mesenteric artery, where it causes an aneurism, and thus, indirectly at least, injures the digestive apparatus and becomes the most frequent cause of colic. While inside of that artery the worm is inaccessible and can neither be dislodged nor destroyed by any treatment whatsoever. When the worms are maturing they pass off, probably through the walls of the ramifications of the anterior mesenteric artery, the intestinal arteries, into the intestines and then become harmless as far as the individual worms are concerned. But these mature worms when passing off with the dung should be destroyed, one and all of them, as the only way to prevent their further propagation. It is true the worms themselves soon die, but then the eggs, possessing a great tenacity of life, hatch in mud and water to free-living rhabditides, and then, with the water for drinking, again find an opportunity

to enter the intestinal canal of a horse, from which they, already provided with an armed mouth, work their way into the arteries and thus probably ascending reach their destination, usually the anterior mesenteric artery. Hence, the only way to prevent this worm from finding an entrance into a horse is to never allow a horse to drink any water from pools or ditches, etc., draining stables, horseyards, horse-pastures and public roads. This may be difficult, but there is no other way. If one desires to hasten the exit of the mature worms, raw linseed-oil injected a few times into the rectum will do it.

So-called Wind-galls.—H. S. H., Miller School, Va. Wind-galls are seldom removed by external applications, and even if removed are very apt to reappear unless the exciting causes are also removed, or as to your case they would be pretty sure to return if the use of your mare for riding is continued. If the galls are in the sheaths of the flexor tendons, a surgical operation, even if performed with all possible aseptic precautions and by a competent surgeon, is not without danger, and if the gall has its seat in the pastern-joint and consists in an abnormal accumulation of synovia and an enlargement of the capsular ligament, a surgical operation is out of the question. If, on the other hand, the gall has its seat in the bursa of the extensors on the anterior surface of the lower end of the shank-bone just above the pastern-joint, it can be removed by a surgical operation, which, if properly performed, is without danger. The other galls can often be reduced and sometimes be removed by means of bandages, judiciously applied, and gentle friction every time the bandage is removed and also when put on again, but the trouble is that the gall is apt to return.

Heaves.—F. X. T. L., Montmorency Falls, Can. The term "pursiness" (English) *La pousse* and *soffie* (French) and *Dampf* or *Daempfigkeit* (German) signify the same condition known as "heaves" in the United States, that is, not any specific or definite disease, but any chronic, feverless and incurable difficulty of breathing in horses, resulting from various morbid changes produced and left behind by different morbid processes. In the United States the most frequent cause consists in the feeding of dusty and musty hay, clover hay in particular, or, in other words, of hay full of fungus spores. A fully developed case of heaves, as said above, is incurable. Still, as the difficulty of breathing is in all those cases resulting from feeding dusty hay, and consequently in a vast majority of them due to a difficult expiration, more or less relief will be had and the breathing will be made easier if the animal does not receive much bulky food or food not rapidly digested, and if the deficit in nutrient material thus created is made up by feeding more grain and food easily and rapidly digested, as this will give more freedom to the diaphragm and enable all other respiratory muscles, but particularly those active at the expiration, to perform their functions with greater ease and in a more perfect manner. This is of considerable importance, because in a horse affected with (common) heaves the air-vesicles or air-cells of the lungs have lost their normal elasticity and the expulsion of the air (the expiration), therefore, has to be effected almost exclusively by the contraction of the chest. This is also the reason why a horse affected with heaves will breathe much easier when grazing than when kept on dry and bulky food, hay, for instance. For reasons which may not require any explanation it is advisable to assign to a horse suffering from heaves that place in the stable, even if it should be the coldest, in which the air is the purest. As to the arsenious acid treatment you speak of, it will produce some improvement, but only as long as the treatment is kept up. If the treatment is discontinued the case will soon be the same as before and even worse, because then the horse will soon show a tendency to emaciate. Consequently, it is not advisable to apply it, unless it can be continued as long as the horse is living. If it is to be used, a good method will be the following: First, have enough doses weighed out by a druggist to last five weeks; namely, one of six grains, two of each seven grains, three of each eight grains, four of each nine grains, five of each ten grains, five of each eleven grains, four of each twelve grains, three of each thirteen grains, two of each fourteen grains, and one of fifteen grains, then to give on the first day, say, for convenience, on Monday six grains, on Tuesday seven grains, on Wednesday eight grains, on Thursday nine grains, on Friday ten grains, on Saturday eleven grains and on Sunday nothing. On next Monday the dose should then be seven grains and increase one grain a day, so that on the second Saturday it will be twelve grains, then the third Monday it should be eight grains and third Saturday thirteen grains. If thus the dose is increased one grain each week-day and one grain each week, the dose on the fifth Saturday will be fifteen grains, the highest dose that can be given with safety. Then a new supply, the same as at the beginning, must be secured, and the dose to be given the sixth week will be the same as the first, and so will be those of the eleventh, the sixteenth, the twenty-first, etc. There are very good reasons for this arrangement, but to explain them would require more space than I have at my disposal, so you will have to take my word for it.

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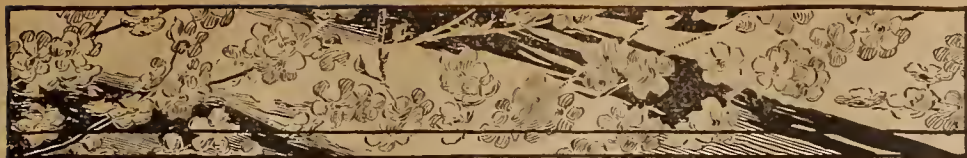
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A DEAD-SEA APPLE

By Virna Woods

Author of "The Amazons," "A Modern Magdalene," "Jason Hildreth's Identity," "An Elusive Lover," etc.

CHAPTER XVIII.

IT is strange how all the little incidents of that fateful day return to me. I remember that I had drawn a large amount of money from the bank to pay a creditor who was to call for it that afternoon. He did not come, and the money was left in my possession after banking hours. Mr. Babcock was out of town, and I was uncertain what to do, whether to leave the money in the safe at the store or

whether to take it home with me. At last I decided that it would be best for me to take it home.

"When I told my wife about it she fell into a terrible rage and declared she would not sleep with the money in the house. To pacify her I took it back to the store and locked it up in the safe. When I returned I was greeted with another volley of reproaches. Why had I not sent a watchman to the store? The money would be sure to be stolen that night. And why had I drawn it out of the bank in the first place? Why couldn't I have given the man a check? I patiently explained to her that his train was not due until after the bank had closed, and for some reason best known to himself he wanted the money that night; but she would not listen to me. I sat down, and picking up the paper, attempted to read; but the steady stream of words blurred and confused the printed page. At last, driven to desperation, I rushed out of the house and paced up and down the garden with clinched hands. The sound of the voice, now directed against the servant, who was laying the table for dinner, came through the open window and seemed to drive me to the verge of madness. I felt that it would be a relief to send a stone crashing through the glass pane, that in some way the tension of the nerves must be relaxed. It was the nearest approach I had ever had to the quereasoning anger of my dreams.

"All the evening my wife talked about the money; and when at last I fell asleep, it was to the sound of her complaining.

"It must have been about midnight that the dream came to me again. It was more terrible and intensely real than ever before. The words of my wife lashed me to fury like winds beating the sea. It was not so much anger of the mind as excitement of the nerves—such excitement as demands violent action for relief, and gives rise to the irresistible impulses of the insane. At last, beside myself, I sprang upon her and struck her. With a cry she fell to the floor and lay, there motionless. In my terror I seemed to see that she was dead. I awoke with a shudder. I was sitting up in bed and trembling violently. With a sigh of relief that it was only a dream, but with the horror of it still upon me, I put out my hand to assure myself that she was lying in her accustomed place. She was not there. I sprang to my feet, a cold terror creeping over me, and hastily struck a light. She was lying on the floor beside the bed, her face pallid and ghastly. I leaned over her and listened for her breathing; it had stopped in her breast. I put my hand over her heart. Its beating was still. Trembling I fell upon my knees and tried to kiss her awake. I called to her, and in my terror shook her violently. But it was all to no avail. Then the terrible truth came to me. I had murdered her in my sleep.

"How I got out of the house I never knew; but I found myself in the cool air outside, walking rapidly toward the depot. There was no thought of arrest, no fear of the consequences in my mind. My only wish was to get away, away from the horrible fascination of the ghastly face and the awful stillness of the room.

"Even in my confusion, in some automatic way, I had prepared for the needs of the immediate future, for I had brought with me the little money there was in the house and had packed a change of clothes in my valise. I did not buy a ticket at the depot, but boarded a train and paid my fare to Chicago. From there I went on to Kansas City, where I alighted a stranger under a new name.

"It is needless to go over the story of my wanderings. It is enough to say that again and again I was driven from my new abode by a glimpse on the street of a face that was familiar to me, or a figure in which I traced a fancied resemblance to some old acquaintance. In this way I went from Kansas City to Denver, from Denver to San Francisco, and from San Francisco to Australia, changing my name always with my place of residence.

"So I fled from my past, but it followed me, haunting me with a terrified cry and the

gleam of a pallid face in the darkness. Soon I acquired the habit of sleeping with a light in the room, that I might cheat the dreaded apparition of its opportunity; and never to this day have I dared to look at the printed page of a newspaper, lest terrible headlines should stare out at me and the dreadful details of discovery and inquest and burial be forced upon my attention. But I could not rid myself of the dream that came again and again, always culminating in the awful tragedy of that night. Often have I waked, thrilling with the horror of my first discovery of the unconscious deed. It is a living punishment that is more bitter than death.

"So the years passed. Poor, friendless and afraid of my past, I worked as a common laborer on an Australian sheep-ranch, saving with miserly care a little hoard for some undefined purpose that shaped itself later in my mind. I had a few books over which I occupied my evenings, gaining among my fellow-workmen the reputation of taciturnity

ing glance of sympathy and felt the warm hand-pressure of a friend, and my soul reached out in its loneliness for contact with other lives.

"So I went to Los Angeles, and was successful beyond my dreams. In the course of a few weeks I had risen from poverty and obscurity to a position of wealth and the power it brings. But the black shadow never left me and my fear of discovery increased. Often when walking along the crowded street and watching the faces of the passers with the continuous dread of recognition I remembered with envy the humble Australian shepherd whom no one would trouble himself to identify or disturb. I had never been able to overcome my horror of newspapers, although after so great a lapse of time there was little danger of seeing any mention of the tragedy that had darkened my life. I knew, however, that my new name of Edward Raymond was becoming familiar in the local press, and as I necessarily broadened the circle of my business acquaintance it became more and more apparent to me that my growing prominence made the event of my exposure an imminent possibility. Consequently I arranged my affairs in such a shape that I might leave at any time without sacrificing my business interests and without financial embarrassment. As rapidly as possible I made investments elsewhere, some in the name by which I was known in Los Angeles, and others under a different alias. I also started bank-accounts in two or three different cities, one of these being San Francisco, under the name of Theodore Bland.

arrived in San Francisco, and so ending the uncertainty and dread; but I knew I could never make my story believed, and the thought of a shameful death and contumely beyond my desert withheld me.

"Whether, indeed, my enemy had recognized me in Los Angeles, and had subsequently gotten on my track, or whether accident had thrown him again across my path, I do not know; but one day I saw him on the street in San Francisco.

"Without waiting to return to my hotel, I took a car to the pier and just caught the boat that connected with a train. It was then the thought occurred to me that some quiet little town might be the safest refuge, and in looking over the map of California I chanced upon the name of Lupine Springs. That night I came here and saw you sitting on the veranda with Babens in your arms.

"The rest you know; all but the futile struggle to crush out my love or to bury it in silence; all but the agony and despair of the nights when the dream returned and I felt myself anew a murderer. God knows I would never have dared to sully your pure soul by joining it with mine had not the doctor warned me it was the only way to save your life. How could I add the burden of another death to my guilt? How could I dare to let you suffer for my crime?

"Darling, I love you, I love you; but the weight of silence oppresses me, and sometimes I wish that I might tell you all, even should you send me away from you forever. Sometimes I madly dream that you might pity and forgive me, and love me in spite of everything; but I can never tell you, for the dread that should I do so the next moment I would see you lying dead at my feet. But should they come to take me, then I will give this into your hands, that you may know my soul at least is innocent.

"My long struggles and uncertainties are over; there is but one way, and my feet have found the path. I must make of my broken life the best that it is capable of being; I must make your life as full and happy and free from care as it is in my power to do. So I hope in time to find peace and to be worthy of the great love you have given me.

"It seems eons of world-histories since I wrote those last words, and yet it was only last night, last night when I thought that to-day you would be my bride. My heart is in a tumult and my brain is on fire. I cannot tell you the bitter agony of the consciousness that you are lost to me forever; nor can I tell you the sense of unutterable joy at thought of my innocence. It is as though fetters had been struck from my body and wings had been given to my soul. The darkness of the years has melted away and I feel the glory of the morning on the hills. But you, my poor little white dove, again you must suffer, and through me. The consciousness of this is almost more than I can bear; and if you should die now I feel that the intolerable burden would return to my heart.

"But there is much to be done and my words must be brief. To-day I must leave you—to-day, when I had hoped to call you my bride. Before I go I want to explain the strange circumstances that led to my fatuous error, and leave the manuscript with you that you may understand all that I have withheld from you so long. It is right that you should know the hidden motives of actions that must many times have seemed strange to you; and telling it will relieve the burden of my soul and will enable me to keep in silence the mistaken thought that has darkened my life; to keep it even from my wife, whom it would only terrify and grieve. She has told me everything and believes now it was temporary insanity caused by the horror of that night that drove me from her, and the relief that she was dead that kept me away from her for so many years.

"You remember that I had carried home from the store a large sum of money, and that owing to my wife's anxiety about it I had taken it back and locked it in the safe. I had been watched and followed home, but in some way the thief had not discovered the fact that the money had subsequently been returned to the store. That night he broke into the house and entered our room. As he did so, my wife, roused suddenly from sleep, sprang out of bed and confronted him, just as the moonlight from the window shone full upon his face. He struck her on the head and she fell back with a loud cry. In that flash of time my dream must have been superinduced by the noise of her fall and her scream, as is well known that dreams apparently of great length may occupy but a moment. I awoke with the horror of my distorted vision upon me, and found my wife, who, more from fright than the blow, had sunken into a deep faint from which she did not recover for hours, and seemed to me to be dead. In the meantime the burglar had escaped, and I was convicted in my own eyes by circumstantial evidence. I fled in horror of my fancied crime; the rest of my life you know.

"In the morning the burglar was discovered in the garden, where he had fallen in his hurry and broken his leg, and he was later identified by my wife as her assailant.

"My mysterious disappearance would doubtless have been attributed to foul play at the hands of the burglar had it not been for the



THEY STOOD BEFORE THE PICTURE OF "LOVE'S DREAM"

and a feeling of superiority that I did not entertain. Often, indeed, I have watched their uncouth forms moving about their humble tasks, and have envied them the blessed innocence they did not prize.

"At last I chanced to see in a California paper that had strayed into the possession of one of the men glowing accounts of the great boom in Los Angeles. The thought stirred me to strange new hopes and purposes. Was it necessary, was it right, that for an involuntary crime I should rust out my life with labor of my own hands? If there was indeed a God that judged me for my deeds, would it not add yet more to my burden of guilt? Then, looked at from a purely human point of view, was it not the act of a coward to give up the struggle for a worthier life? Would I not be more at peace if I returned and faced the danger of discovery, in living out the broader, truer life for which my soul longed?

"I counted over my little hoard. It would take me to California and leave a little, a very little, for investment. But I would have my chance; I would no longer starve my soul and wear out my brain in the monotonous round of tasks that had circumscribed my days. Already I longed unutterably for the stir of life and the blessed noise of cities, for the mental stimulus and the emotional vigor that come only in the great centers of human life. In imagination I saw the flash-

"It was not long before I realized the prudence of these measures. I wanted to consult my agent in Los Angeles about the disposition of some property. I started to his office and met him on the street. He turned back with me, saying that a gentleman was then waiting for me in the office. When we reached the door I looked in and saw a man standing by the window. He turned, and I recognized Mr. Babcock. With some hasty excuse, I do not remember what, I turned away and went back to my hotel. I knew that Mr. Babcock was near-sighted, and hoped that he had failed to recognize me; but whether the encounter was accidental or designed I could not determine. At any rate, I know that if we both remained in the city my exposure would be the matter of only a few days. That night I took the train north.

"I cannot tell you the agony of that long ride over the desert, the bitterness of realizing anew that I must be a wanderer and an outcast. I fell asleep and the dream visited me, and I woke with the horror of it fresh upon me. Again I lived over the past when I was hunted from city to city, and I shuddered with the dread of repeating that terrible experience. The possibility of living my own life worthily in spite of the past vanished like a dream. I must face a future of forced vicissitude and constant danger. Once, indeed, I thought of giving myself up when I

fact that I had been seen and recognized on the train I took for the West on the night of the attempted robbery. For many months my wife and father-in-law, ignorant of any motive for my flight, made ineffectual efforts to trace my whereabouts. Gradually they came to think that I had wilfully deserted her, and she blamed herself for having driven me away with her sharp speech.

"Not long after my disappearance Mrs. Babcock died and Ella returned to live with her father. The stepsister had already married and moved away.

"Nothing was heard of me until after I went to Los Angeles, when my father-in-law chanced to notice some newspaper paragraphs about me, and fancied there was a suggestion of Leland Clifford in the description of Edward Raymond and the brief mention of his past life. Mr. Babcock's business had gone badly since I came away, and partly to make investments himself in Los Angeles in the hope of restoring his prosperity, and partly to track me and force me to share my wealth with my wife, he determined to follow me. Ella gave an eager assent, with the hope that she might bring about a reconciliation between us.

"Mr. Babcock did not recognize me in the real-estate office in Los Angeles, but his suspicions of my personality were confirmed by my sudden disappearance; and after some delay he succeeded in tracing me to San Francisco. By coming to Lupine Springs I eluded him, and he did not see me until the day of my return from the city on account of your illness, when he attempted to board my train and was thrown back on the mole, receiving an injury from which he never recovered.

"He found out my place of retreat at last through a chance remark of your doctor to his own physician. The young man who came up from the city last night was sent here by him to identify me, which he was able to do from a photograph my wife had carried in her watch. He immediately telegraphed to them that we were to be married to-day. Mr. Babcock was dying, but Ella took the night train for Sacramento, arriving here this morning. The rest you know; my confession is finished.

"It is all over. The Dead-sea apple has drifted to my feet and I must eat the bitter fruit. That you must share it with me is the heaviest part of all my punishment. A thousand thoughts heat in my heart and brain; a thousand prayers for forgiveness and for your safety and peace.

"There is one word I would leave with you: that you seek a broader life and devote yourself to your art. I have never told you the marks of genius I have seen in your work, for I thought to take you where you might study and to help you by my encouragement and appreciation to realize to the full the fine possibilities of your nature. The dream is over, and I must leave you alone where the way will be long and the path rough to your feet. God bless you, dear, and guard you. My heart breaks with the word farewell."

CHAPTER XIX.

Here the manuscript ended. Veva rose from the window and laid the book away. After awhile she would burn it, not now. She drew out a picture her lover had had taken for her in Minerville, and looked at it long, with passionate tenderness. Then she pressed it to her lips with incoherent words of pity and love.

She sat down again by the window. There seemed to be nothing in the world to do. She knew that after awhile she would take up her art as he had told her to do; but just now it did not matter that she sat listless by the window with her hands folded in her lap. She was hardly conscious of her pain. One thought possessed her heart and tortured her brain.

"How he must have suffered," she said, softly.

The street below had resumed its usual quiet and the station was deserted. Now and then she could hear the scraping of chairs on the veranda below, where the men were sitting tilted back against the house, smoking and talking. The sound of the hammer came from the blacksmith-shop across the street; and now and then a bird-trill floated out from under the eaves.

Twilight came softly over the hills and filled the room with shadows. A lamp shone out at the station and lights began to twinkle in the row of houses beyond. A patter of little feet stopped outside her window and a baby voice called her name.

She roused herself, and leaning out of the window drew Babens in from the veranda and set her in her lap. The child clasped her tiny arms about the girl's neck and laid her little face against the cold cheek.

"Aunt Veva loves Babens," she asserted, with the confidence of babyhood.

There was no response and the little lip quivered.

"Babens loves Aunt Veva," she said, laying her hand on the girl's face.

Veva clasped her close to her heart, the sudden tears falling on the child's bright hair.

It was the next day that a little group stood about an open grave at the foot of Lone Mountain. Far away the sun shone on the silver sea, and on the summit above them the white cross stretched out its arms against

the sky. Behind it San Francisco was hidden; about them rose the white shafts of the city of the dead.

Leland Clifford shivered as his wife clung to him, her slight frame shaken with sobs. But he put his arm around her and drew her gently away as the last words were said and the clods fell heavily on the coffin.

As the little procession wound its way back to the gates, and the scent of the salt air came through the window of their carriage with an exhilarating suggestion of life, she lifted her head from his shoulder and turned her face to him.

"I cannot be unhappy long," she said, "now that I have you again."

"I will try to make you happy," he answered, as he drew her close in his arms.

CHAPTER XX.

Five years of quiet monotony and evenly balanced existence had passed over Lupine Springs. The houses were the same, save that the paint had worn off in places, and the long freight-sheds had taken on a deeper stain of the weather. The people, grown a little older, were the same, save that there had been three or four births and the bar-tender had died in the upper hotel. Except, indeed, that Veva Gladding had gone away. But that had happened soon after the interrupted wedding, and had already become a part of history in the quiet chronicles of the place. There had, however, been a few events of special interest. A son of Mr. Adams and a daughter of Dick Fellows had married; the school-house had been repaired, and Mrs. Cartwright had brought a moquette carpet and tapestry portieres from Sacramento. But in all its essential features the village was the same.

At the old hotel near the station a sharp-featured, precocious boy had grown to the awkward age of youth; and a cherubic baby had developed into a fairy-like little maid who went to school and insisted upon being called Genevieve. A plump and comely woman, with a more matronly look than of yore, passed to and fro in the house; and a bent old man, whose feet began to lag and whose hands to tremble, swung the anvil in the shop or sat on the veranda in the long summer afternoons, tilted back in his chair and musingly watching the smoke curl upward from his pipe.

The years were counted not by their events, but by the changes of the seasons. Now the snows melted from the slopes and the lupines and lilies blossomed in the grass. Now the rains ceased and the hillsides softened to a golden brown in the sun, and a languorous haze obscured the purple peaks of the mountains. Now in the valleys and on the hillsides it was the fruitage-time of the vineyards, and every day the freight-train pulled out, its many cars loaded with luscious burdens of Muscat and Tokay. Now the winds and the rains swept over the hills and tore away the glamorous mists, and the serrated line of mountains against the sky was dotted with peaks of snow.

So the years had passed for five winters and summers; and then there came a change. The glory of the town had been taken away and many of the cottages were but empty uests at the foot of the hills. For Lupine Springs had been reduced to a way-station, and the line of railroad carried now over and now through the hills to Minerville and the first ridge of the Sierras. Cartwright and Fellows and Coleman with their families had followed their offices to the larger town, and conductors and trainmen no longer made their headquarters at the deserted-looking hotels. The yellow stage-coach, too, had begun its career anew in a circuitous route up the mountains. The daily bustle and confusion of the terminus, so dear to the hearts of the villagers, had degenerated into the momentary excitement of the arrival and departure of the train that went puffing and screaming around the curve to the country metropolis.

It was upon one of such somnolent days that a spasmodic thrill of life passed through the village at the arrival of a passenger on the evening train. Young Adams, upon whose shoulders the dimnuted cloak of Cartwright had fallen, looked at him with a puzzled sense of having seen the face before. The conductor, passing him with a wink, nodded carelessly after the figure that was already crossing the street at the hotel.

"Guess he'll find the cage empty this time!" he said. "All aboard for Minerville!" And he swung lightly on the steps of the last car as it swept out of the station.

If the old corps of employees at the station had not been superseded by a set of young fellows, the most of whom were school-boys five years before; or if Mrs. Leonard, the postmaster's wife, had not been confined to her bed with rheumatism, it is not probable that so important a personage in the annals of the town would have remained over night in the place and have gone quietly away on the morning train without having left an explanation of his visit. But that such was the case and the excitement of the event was chiefly post factum was an evidence of the hopeless degeneracy of the town.

It was the postmaster who had recognized the visitor as he got on the morning train and had spread the news through the village; and half an hour later, the postmaster's wife, with much trouble and pain, had risen from her bed and dressed and hobbled down to the

hotel on her crutches. Mrs. Parker, indeed, received several callers that morning, but to all of their questions she gave evasive and unsatisfactory replies. Meantime the train sped back to the valley, leaving the town behind it hidden in the hollow of the hills.

In a modest little studio on a quiet street in San Francisco, Genevieve Gladding sat at her easel at the close of a windy, foggy day, trying to get the best light to finish a picture she was painting. But for a moment the twilight had made her eyes dreamy with retrospect and the brush lay idle in her hand.

The five years that lay behind her had been years of fluctuating hopes and continuous toll; but her health, whether from the change of climate or the peace that comes after great sorrow, had steadily improved. At length the attacks of heart trouble had entirely ceased; and she felt that in her restored strength one of the means of success had been granted to her.

Almost from the first she had been self-supporting, having obtained pupils and patronage through the influence of her teacher, with whom she was a favorite. She had gained, indeed, little local renown by an exhibition of two small pictures at the Mechanics' Pavilion during the last annual fair; both of which she had soon afterward sold. But the daily struggle for bread went on; and she felt it hard to hold fast to her ideals and her hopes in the midst of the routine of teaching and the filling of orders for work. She had learned, indeed, that people cared less for carefully colored paintings of classical subjects or exquisite water-colors of scenes on the coast around the bay than for black and white portraits of themselves. She had found one of the most remunerative branches of her work that of enlarging photographs; and no one cared that she found no time to work out the masterpieces of which she dreamed. Now her heart cried out for sympathy and help, and she thought with a desolating loneliness of the romance that had gone out in darkness at Lupine Springs. She had tried to broaden her life and make it worthy of the love she had lost; but she feared that her illusions were slipping one by one from her hands. She was not without friends; but they were only pleasant companions absorbed in their own interests; and even when she made her annual visit to Lupine Springs she saw with a jealous pang that Phil and little Genevieve had to some extent supplanted her in Mrs. Parker's thoughts. It was not that her sister no longer loved her, but she seemed to have passed more and more out of her life, and the children, with their increasing needs, had filled up the measure of solicitude that had once been for her.

As she thought of these things, a rush of tears blinded her eyes and she longed even for one moment to lean again on the strong arm and the sympathetic heart of her lover. Since the day he had left her at Lupine Springs she had heard no word of him, but the marriage vows she had spoken, empty though the ceremony had been, seemed to hinder her to him with a mystic tie that was stronger than absence and the lapse of years. Once he had called her wife; and she felt that she could hear the word from no other lips than his. In vain she had striven to forget him; in vain she had told herself it was wrong for her to think of him. She could not cast the love out of her heart; she could only bury it and strive to fill her empty life with work. She thought sometimes in the early days of her passionate grieving that her frail heart would indeed have broken had it not been for her art. She remembered, too, the promise she had made her lover that she would not die. Some time, perhaps, in the calm of after-years he would hear of her success, her fame, and he glad. So she lived through the bitterness of the first sorrow, whose intensity had softened slowly to a dreary sense of loneliness. But the lapse of five years had not obliterated from her mind one of the magic scenes made beautiful by glamour of mountain mists and dreams of love. Now, as she sat musing before her easel, she thought of a story that she had somewhere read, of a poet who succeeded because he had dipped his pen in his own heart's blood; and she wondered if the same spell of magic would touch the brush she held idly in her hand. She looked questioningly at the picture, which had been the love-work of her leisure hours.

The canvas represented a succession of pine-clad hills, a house with a long veranda nestling against the foot of their slope. The moonlight lay soft on the trees and whitened the house-roofs that glistened from the foliage. It outlined two figures that stood on the veranda, and illumined the faces that were turned to each other; the man's in full view, the woman's hidden save for the outline of the cheek. On the road before them the silver light lay latticed with the shadows of the leaves. Far away across the hills a snowy summit lifted its head above the blue range of mountains; and against the sky on the horizon was traced a fern-like etching of firs. The name of the picture was "Love's Dream."

The artist rose and stepped back from the canvas to get a better view of the effect. As her eyes glanced over the softly shadowed hills, and rested on the figures in the foreground, they filled suddenly with tears and a

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passionate tenderness shone in her face. In a moment the five years of loneliness and struggle had dropped from her heart; she had forgotten the days of need and of despair, when she had almost turned back to the refuge of the hills; she had forgotten her ambitions and her fruitless dreams of studying abroad; the sound of car-bells and wheels and the murmur of voices did not reach her from the street below. Again she stood on the log, low porch the night before her wedding-day; again she thrilled with the same vague dreams of happiness and peace.

Her face in its rapt retrospect was very beautiful: more beautiful even than on the day when she had parted from her lover. If some of the ethereal fragility was gone, there were added a strength and a maturity that more than replaced it; a human sympathy and serenity that came to a brave soul after sorrow.

She turned at the sound of a step in the hall, expecting the arrival of a pupil. As she did so she fell back with suddenly whitened cheeks and hands clasped tightly before her. In a moment the face in the doorway had melted away in a great blackness that fell before her eyes. She trembled and threw out her hand, instinctively seeking support. A firm step crossed the threshold and hastened to her side; and as a strong arm upheld her, the dark curtain was drawn from her sight and she looked up at the face bent anxiously above her. It was the face of the picture, a little older and more self-contained, but ennobled with a great peace.

"Veve, darling," the familiar voice cried, "at last I am with you!"

She did not try to draw out of the arms that enfolded her, but she looked up with a sudden question in her eyes.

"Your wife," she said, in so low a tone that he bent down to hear.

"She is at rest," he answered, gently. "She has been dead nearly a year."

In a moment the tense figure had relaxed and she rested her weight in his arms.

"And I," he went on, "I could no longer live without you. I could not bear to write, and so I waited until I thought you would not send me away."

He bent his head and pressed his lips again and again on her upturned face.

They stood before the picture of "Love's Dream."

"I was there last night alone," he said, pointing to the figures in the pictured moonlight. "I went to Lupine Springs to find you."

"Did you not know," she answered, softly, "that I would follow out your wish and come here to study art?"

"I thought so, I hoped so," he replied, "but I could not have found you. And I am glad I went there again," he went on, "for now I know how wonderfully true your picture is. You shall go to Paris and Rome; and after awhile you shall have success and fame."

"It may be," she replied, "and I shall be glad of it should it come. But now," she added, softly, "now it is enough to have love."

THE END

ELECTRICAL TERMS EXPLAINED

A consulting electrical engineer, who was asked to put one of the less common electrical terms in plain language, said: "I am frequently resorted to for just such explanation, and nothing surprises me more than the haziness which still exists in the minds of even intelligent folks in regard to the simplest electrical terms. To most people the electrical units are still mere Greek, and comparatively few go to the trouble to take hold of the more common of them, such as 'volt,' 'ampere,' 'resistance,' 'electro-motive force,' etc., and fix their meaning, once for all, in the mind. A man who knows me only by reputation wrote to me the other day that he had done this with much satisfaction to himself, as he has now a far more intelligent idea of electrical things than he had before. But still, he said, from time to time some electrical words would creep into the daily press which conveyed nothing to him. He mentioned as one of them the term 'watt hour.' Now, this is quite simple. The watt is the unit of electric power. It means the power developed when 44.25 foot-pounds of work are done a minute, or .7375 foot-pounds a second. A foot-pound is the amount of work required to raise one pound vertically through a distance of one foot. When this is figured down so as to be defined in 'horse-power,' which is understood by every one, it can offer no difficulty, and if any one to whom the word watt is puzzling will remember that a watt is the 1-746th of a horse-power he will have no more uncertainty about it. Having got so far, it is an easy gradation to the 'watt hour,' which is the term employed to indicate the expenditure of an electrical power of one watt for an hour. In other words, the energy represented by a watt hour is equal to that expended in raising a pound to a height of 2,654 feet. An even easier way of fixing it is to remember that two watt hours correspond almost exactly to raising a pound to a height of one mile. The understanding of such terms opens out some very curious facts to the uninitiated. For instance, a certain dry battery, weighing 6.38 pounds, was known to yield 130 watt hours. If this force were applied to raising the battery itself, it would

lift it to a height of over ten miles. Again, in one hour the energy translated in an ordinary sixteen candle-power lamp weighing about an ounce would raise that lamp to a height of four hundred miles at a velocity of nearly seven miles a minute. Yes, it pays a man to expend a little pains on mastering the ordinary electrical terms."

WIRELESS TELEGRAPHY

For some time electrical inventors have been trying to solve the problem of wireless telegraphy. The most successful of these, up to the present time at least, is Signor Guglielmo Marconi, a young Italian who is only twenty-six years of age. He has spent much time in perfecting the system he has originated. So convinced was the Italian government of the value of his invention for use in war-ships, that it paid a handsome sum for his secret. And now the German emperor is thinking of its application for military and naval use. Signor Marconi has been in England for some time conducting experiments which have turned out successfully. For several months by means of his system he had established connection between the South Foreland lighthouse and the East Goodwin light-ship, a distance of twelve miles. It was not only found to work well, but it was undoubtedly the means of saving life. By means of this communication mariners were warned when too near that terror of navigators, the Goodwin sands. Consent having been given by the French authorities, vertical wires over one hundred feet high were erected at South Foreland, and on the other side of the English channel near Boulogne-sur-Mer. Messages expressed in the Morse code were transmitted with the utmost distinctness between the two termini, and the London "Times" printed the first wireless telegraphic dispatch consisting of one hundred words. The practicability of this method of communication, within certain limits has been demonstrated. For long-distance messages, or across the Atlantic, Marconi's system is inadequate. But he has shown the way on a limited scale, and he or some other inventor may overcome some of the obstacles that stand in the way of communicating with far-distant points. As it is his invention is one of great practical value. Ships at sea can be communicated with from the shore, and from one to the other at sea. It will greatly diminish the cost of telegraph construction, rendering poles and miles of wire unnecessary. By this one invention the name of young Marconi will be linked with those of Morse, Edison, Kelvin, Wheatstone and others, who by their labors and inventions have harnessed the lightning to the service of mankind.

A LESSON IN INTEREST

Too often it is the case that business men do not realize at the time how quickly the interest eats up principal. The following anecdote of Peter Cooper, the great philanthropist, very forcefully illustrates the point. Once, while Peter Cooper was talking about a project with an acquaintance, the latter said he would have to borrow money for six months, paying interest at the rate of three per cent a month.

"Why do you borrow for so short a time?" Mr. Cooper asked.

"Because the brokers will not negotiate hills for longer."

"Well, if you wish," said Mr. Cooper, "I will discount your note at that rate for three years."

"Are you in earnest?" asked the would-be borrower.

"Certainly I am. I will discount your note for \$10,000 for three years at that rate. Will you do it?"

"Of course I will," said the merchant.

"Very well," said Mr. Cooper. "Just sign this note for \$10,000, payable in three years, and give me your check for \$800, and the transaction will be complete."

"But where is the money for me?" asked the astonished merchant.

"You don't get any money," was the reply. "Your interest for thirty-six months at three per cent a month amounts to 108 per cent, or \$10,800. Therefore, your check for \$800 just makes us even."

The force of this practical illustration of the folly of paying such an exorbitant price for the use of money was such that the merchant determined never to borrow at such ruinous rates, and he frequently used to say that nothing could have so fully convinced him as this rather humorous proposal of Mr. Cooper.—Business.

A DAY IN JUNE

And what is so rare as a day in June? Then, if ever come perfect days, Then heaven tries the earth if it be in tune, And over it softly her warm ear lays; Whether we look or whether we listen, We hear life murmur or see it gladden; Every clod feels a stir of might, An instant within it that reaches and towers, And, groping blindly about it for light, Climbs to a soul in grass and flowers; The flush of life may be well seen Thrilling back over hills and valleys; The cowslip starts in meadows green, The buttercup catches the sun in its chalice, And there's never a leaf or blade too mean To be some happy creature's palace.

—James Russell Lowell.

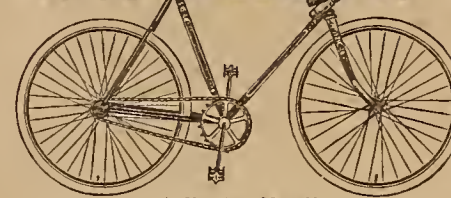
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Arlington No. 69. If You Want a Good Low Priced Wheel Buy the "Brunswick" at \$14.50. Others at \$12.50, \$11, \$10 all good wheels and everyone a bargain and stripped as low as \$7.50. As to our reliability we refer to the First National Bank of Chicago or any Chicago Bank, Express Company and Dun's or Bradstreet's Commercial Reports. Large Illustrated Catalogue FREE, explaining all about our "No Money in Advance Plan." Write today for Special Offer and testimonial.

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SUMMER SUPPERS



IN MOST cities and towns of any considerable size the practice of serving dinner in the middle of the day has given place to the midday lunch and dinner in the evening. On the farm, however, I think it is still the universal custom to serve dinner at noon and then a light supper about five o'clock. During cold weather at least one hot dish should be served for supper. During hot weather this is not necessary, but people who have been at work all the afternoon in the open air want something more than bread and butter, cake, fruit and tea.

In some families it is customary to serve the remnants of dinner for supper, but one tires of slices of cold meat, warmed-over potatoes, etc., after awhile. Cold meats, fowl, fish and vegetables may sometimes be made into salads and be much more appetizing for the little added work. Celery, lettuce, tomatoes, cucumbers, young mustard-leaves, water-cresses, onions and even the leaves of field-sorrel may be served in salads, and in their season are better than cooked vegetables for this purpose.

SALAD DRESSING.—A simple dressing is made by putting one half pint of vinegar with one tablespoonful of butter in a double boiler over the fire. Stir together one teaspoonful of mustard, one tablespoonful of sugar, one half teaspoonful of salt and one teaspoonful of corn-starch, and add water enough to stir it smooth. When the vinegar is boiling hot stir this in and let it cook until it thickens. Then pour it slowly into two well-beaten eggs, beating all the time, and lastly add one half cupful of thick sweet cream, pouring it in slowly and beating it smooth. This dressing will keep a week in a cool place and may be used with any kind of salad.

FRENCH DRESSING.—Mix one half teaspoonful of pepper with one teaspoonful of salt, add three tablespoonfuls of olive-oil and one tablespoonful of grated onion. Mix these, and then add two tablespoonfuls of vinegar. Mix well, pour over the salad, then toss together until well mixed, and serve at once. This dressing is good with a simple vegetable salad.

Celery vinegar may be made by steeping celery-seed in vinegar, and is very nice to flavor salads when celery is out of season.

MIXED SALAD.—Any cold vegetable left from dinner, as potatoes, snap-beans, beets, peas, spinach, etc., may be made into a salad, adding two or three hard-boiled eggs. If you use the simple salad dressing given above, add one tablespoonful of finely minced onion to the other vegetables. Cold boiled ham may be chopped and added to the above salad or mixed with chopped celery, cabbage or lettuce.

FISH SALAD.—May be made from any cold fish. Remove the skin and all the bones and flake the fish, then mix it with an equal quantity of chopped celery, cabbage or lettuce, and one teaspoonful of minced parsley if celery is not used. Add the dressing just before using, and serve one spoonful on a large leaf of lettuce.

Occasionally a pan of hot biscuit or muffins instead of cold bread will be a welcome change. I know one woman who in herry-time at least once gives her family a supper of berry shortcake, either strawberry, raspberry or blackberry, only this and nothing more, except plenty of rich sweet cream. She serves coffee for the elders and milk for the children at this supper. Again, when early apples are ripe, baked apple-dumplings furnish a supper. It takes a good many for an entire meal for a family, but it is a supper always welcomed with pleasure.

Something unexpected will often prove a great success. If you are in the habit of having tea for supper, occasionally serve coffee or cocoa. On some very hot day have a picnic supper in some shady place—maybe the orchard. Make a big boxful of sandwiches, furnish the other usual picnic fare, and have iced tea, milk, buttermilk or lemonade, as the taste of the family prefers. This will save dish-washing, as the few dishes absolutely needed for such a supper can be left until next morning.

I think sometimes that it is the never-ending sameness of a housekeeper's life that tires her most, and anything which will break

the monotony of preparing three meals every day with not much variety in material will be a welcome change. These picnic suppers are always hailed with delight by the children, and they gladly run out and in to carry whatever is needed; and mother is given a rest and change from table-setting and dish-washing.

MAIDA MCL.

PRETTY CROCHETED LACE

ABBREVIATIONS.—Ch, chain; st, stitch; tr, treble; s c, single crochet; d c, double crochet.

Make a ch of 6 st and join in a ring.

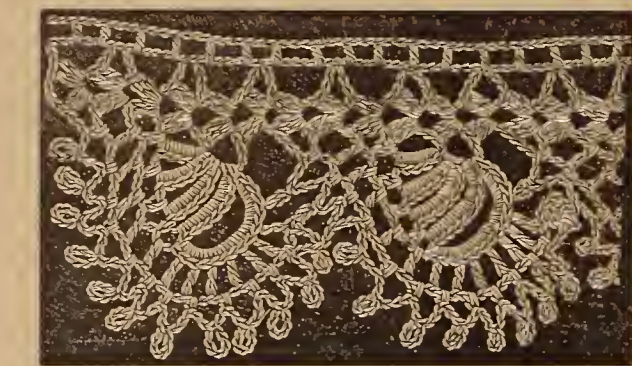
First row—5 ch, 2 tr, 3 ch, 2 tr under the ring; turn.

Second row—5 ch, 2 tr, 3 ch, 2 tr under 3 ch.

Third row—5 ch, 2 tr, 3 ch, 2 tr under 3 ch, 4 ch, 1 s c into the 5 ch at turn of last row; 6 d c under 4 ch, 5 ch, 1 s c under same ch the last s c was worked under; 8 d c under 5 ch, 6 ch, 1 s c under same ch last s c was worked under; 9 d c under 6 ch, 7 ch, 1 s c under same ch the last s c was worked under; 13 d c under 7 ch, 9 ch, 1 s c under same ch the last s c was worked under; 6 d c under 9 ch, 4 ch, s c in first st of 4 ch (this for picot), 17 d c under same 9 ch; 3 ch, 1 s c under 7 ch; 4 ch, 1 s c under 6 ch; 4 ch, 1 s c under 5 ch; 4 ch, 1 s c under 4 ch; 2 ch, 2 tr, 3 ch, 2 tr under the 3 ch between the 4 tr of second row; turn.

Fourth row—5 ch, 2 tr, 3 ch, 2 tr under 3 ch, * 3 ch, 1 tr into next loop of ch; repeat from * 11 times more, working a tr into each loop of 4 ch and 8 tr into the top of every other d c of the 17 d c; turn.

Fifth row—4 ch, 1 s c on top of last tr, * 7 ch, 1 s c in third of 7 ch (for picot), 2 ch, 1 s c into center of first 3 ch; repeat from *



11 times more; 3 ch, 2 tr, 3 ch, 2 tr under 3 ch, 5 ch; turn.

Sixth row—2 tr, 3 ch, 2 tr under 3 ch, 5 ch; turn.

Seventh row—Like sixth row. Repeat from third row for the required length. Instead of making the first two picots on the second and following scallops, join these scallops to the last two picots of the previous scallop. The heading is worked lengthwise as follows:

First row—5 ch, then 1 s c in 5 ch loop. Repeat to the end of row.

Second row—1 tr in a st, * 2 ch, miss 2, 1 tr in next st; repeat from * to the end of row.

MRS. J. R. MACKINTOSH.

TWO PICTURES

Giotto, the Florentine artist, who died in 1336, at the age of sixty years, was the first of the old artists who seemed to give life to art. His work became very noted among popes, kings and those in high places, and he was constantly busy filling orders for cathedrals and palaces. The figures in his paintings were so real that a writer of that time said that persons in grief actually looked sad, and those in peace or joy expressed it in their countenances.

Giotto had seemed to reach the acme of fame when he began the picture of the crucifixion, the marvelous representation of the suffering and dead Savior, from which many of the famous pictures of the crucifixion in Europe have been modeled. Much as the pope (who had ordered the painting) expected, it far excelled anything he could even think. Day after day, as he went to gaze at the picture, which was still in the artist's little workshop, he wondered at the possibility of an imagination strong enough to make so real a picture. He questioned Giotto as to how such a conception of suffering could be wrought out. Finally Giotto

said to the pope, "May you forgive me, but come see the pattern."

The pope again accompanied him to the shop, and there Giotto drew aside a curtain and showed a man lying dead. He confessed that at first he had no thought of murdering the man; that he had offered a poor man a sum of money if he would consent to being bound to a cross for an hour, and that after having the figure in the position he wished, it had been a temptation to pierce the side of the man, which he did, trusting, as he said, for forgiveness from God and man, since he felt sure he could portray the sufferings of Christ as had never before been done.

Though the pope valued the picture more than he could tell, he said, "You have sinned. You shall give your life for the life you have taken. It is written a life for a life. You shall be put to a cruel death because of this."

Giotto did not gainsay the words of the pope, but asked a little time, at least a few hours, before the pope's decree should be executed, saying he wished to put a few touches yet upon this his last work. His request was granted. Shortly afterward it was found that the artist had smeared the picture all over with some preparation, and apparently one of the greatest pictures ever made was blotted out.

The pope said, "I lengthen your life, so that you may paint another picture of the crucifixion, and it must be in every respect like the one you have just destroyed. Terrible will be my judgment upon you if in any way it falls short."

Giotto, whose life seemed to hang upon a slender thread, only said, "I will not make another picture unless I am forgiven and the death sentence taken wholly from me."

The pope relented and the artist simply removed the coating he had put upon the picture, and in a few hours it was the same. So great was the excitement about the work of art, as well as about the artist, that as much gold was brought to him as would cover the whole picture.

Some of the best writers have found their themes in Bible stories and characters. Indeed, the Book of Job is pronounced the most perfect model of a short story ever written; not only are subjects for pen-pictures found there, but great artists of all ages find their best subject-matter in that same book. Hoffman, the greatest biblical artist since Dore, has from the New Testament story made twenty-four pictures which complete a gallery in themselves.

But there is a new picture of the crucifixion. George Innes, of Paris, has during the past year become great among artists by the completion of a crucifixion. He has turned away from the desire felt by Giotto so many hundred years ago for a real model from which to work, and has followed the thoughts of artists still farther in the past, and made an allegorical picture.

An inspiration concerning the very highest meaning of Christ's death must have been in the mind of the artist, as if he had made the Psalmist's prayer his own: "Send out thy light and thy truth," the predominant idea of the picture being "Christ the Light." On a round hill in the distance there are two crosses, and in the space where, as the account says, "Jesus hung" there is no sign of a cross, but a blazing light shines out, and the space is arched by a rainbow, the promise of God to man.

The different thought of the two artists seems typical of the thought of the world. Some of the young as well as those older are won through suffering, while others come because of the "light" and promise which are above and beyond all suffering.

MARY JOSLYN SMITH.

STAY ON THE FARM

I have suggested that we ought to carry on our studies with the children. There is no reason for supposing that education ends when a woman gets married. In fact, I think it is just about then that education begins. For my part I believe in not sending my children away to be taught those things that I can just as well teach them myself. I will not break down the family unity any sooner than I am obliged to. The kindergarten is a capital thing for those who need it, but I wish that every mother could do her own kindergarten work.

I wish you could come and see my thirty hives of bees. I wish you could see these busy creatures and watch what they really are doing. They not only carry a large stor-

age of delicious food to the hives, but they rush from flower to flower, making the fruit crop far more certain. I claim the bees as one of my own private parts of farm property. It is mine to study them, to watch them, and to provide for living them. In fact, my husband does not like bees as well as I do myself. Out of these hives I will collect several hundred pounds of delicious food to contribute to the family table or for sale. A family that does not eat meat may dispose of at least two hundred pounds of honey in the course of the year from thirty hives. It is concentrated food of the very best and safest kind. Honey will not hurt the digestion of one who largely lives upon fruit and cereals.

A few years ago the use of cereals was met by the problem how to cater to the taste of half a dozen or more in the family. But we have now not less than eighteen or twenty different preparations of wheat, barley and oats, separate or combined, which, together with preparations of rice and Indian corn, provide a variety for all sorts of tastes. I find it economical as well as otherwise judicious to keep at least a half dozen of these always on hand. They should be bought by the wholesale, in kegs or half barrels, by which means we save as much as we do by buying flour by the wholesale. Among the favorite preparations in our household are farinose, which is wheat parched before grinding, farina and avena, shredded wheat, granula, and perhaps best of all, grape-nuts. This last is a cooked compound of barley and wheat, and comes the nearest to being satisfactory to every member of the family. However, for my part I believe we eat too little of the preparations of Indian corn. Granulated meal and samp (a porridge made of coarsely ground corn), when thoroughly cooked, cannot be surpassed by anything made of European grains.

The problem how to make the farm retain the young folks is one that must be solved in a very simple manner. If we could get our schools to give an education in matters pertaining to farm work, I would not trouble myself about the rest of the difficulty. The country home should concentrate in itself those elements which go together to make individual life contented and happy. I do not see why a farm-house need always suggest the idea of work. On the contrary, I would have arrangements for play, both indoor and out. Why, also, may we not more largely enter into study with our children? When our country schools give us botany and entomology and geology we may take up these studies in our families, and apply them in our daily work. An old farmer said to me the other day, "I used to think all we had to do was to put in about so much fist-work and spine-work; but I tell you I am learning that what the farmer needs is to put in brain-work. Farming pretty soon will be for the most part applied hotany and applied entomology." I think that the old man was right. With the introduction of scientific methods and machinery we are coming to a new era in agriculture, both indoors and out.

LUCY POWELL.

"SHE THAT HATH EARS TO HEAR, LET HER HEAR"

Housekeepers, you who are about to begin the temper-trying and muscle-tiring operation of house-cleaning, have you ever used stair-pads on your stairways? If not, then try them, and you will be better pleased with the results than with the results of anything you have tried for a long time. To make them, cut cases two inches shorter than your stair-carpet is wide, and three inches wider that the steps. They should be this size when finished, so you should allow at least one inch for seams. Pad with cotton as thick as for a comfort, sew up, catch at regular intervals, and they are ready for the stairway.

If you cover with good, stout material the dust will not make so bad an appearance as if you used white goods. If you do not wish to go to so much trouble you can use an old comfort. Cut into pieces the required size, and hind. In putting the pads on the stairs be sure to bring the pad well over the edge of the step.

The use of stair-pads breaks the footfall and prevents the carpet being strained over the edge of the stair-step. Money spent in good stair-rods or rosettes is well spent. They do not fear the carpet as tacks do, and holding it firmly to its place gives it a neat appearance. Brass rods or rosettes make the handsomest appearance, but require an immense amount of attention in order that they may present a good appearance all of the time. While nickel-plated or porcelain fixtures do not look so well, they require no work at all.

M. M. M.

SUMMER ENTERTAINMENTS FOR THE CHILDREN

A PARTY, however simple, is a momentous event in a child's life. It is talked of and looked forward to with delight, and is never forgotten. It is a pleasure which every mother can and should give her little ones, no matter what her station in life. A simple entertainment is more appropriate for children, as it pleases them as well as a more elaborate affair, without being so tiresome. A home entertainment lasting from three to six in the evening, with a supper that they can digest by nine o'clock, is one of the most wholesome of parties for the little ones. The supper, however, must play an important part in the entertainment, for children think more of the ice-cream and cake and other good things than any other part of it.

A little neighbor girl had a party on her sixth birthday, a few evenings ago. It was just warm enough to play on the green lawn under the shade-trees. She was the happiest little tot you ever saw—just ecstatic over the cake her mother had baked and iced, and the six little candles. A beautiful wild-rose centerpiece was placed under the cake, which the little guests, who, like most children, are close observers and enjoy such things, admired very much. The mother also used her collection of souvenir spoons, brought from different states, the World's Fair, etc., which caused many delightful exclamations from the little ones, such as, "Oh, look at my pretty spoon! It's a gold spoon with a flower on the handle," "Mine has the White-House on it," "Mine has Bunker Hill, because the young lady said so," etc. The spoons proved an aid in developing their mental faculties, their many questions as to the meaning of the various designs on the spoons being readily answered by the hostess. When asked if she was not afraid for the children to use the spoons, she said, "Oh, no; and I knew it would please them." The menu consisted of bread-and-butter sandwiches cut in fancy shapes, ice-cream, home-made tea-cakes, the ornamented birthday cake and lemonade. The children were seated at the table, one manservant doing the serving.

When it was time for them to go home she surprised them by giving to each a pretty and inexpensive souvenir in the shape of a small boxful of home-made caramels. The candy was cut into small blocks and put into little pink boxes, purchased at the confectioner's, and tied with pink satin ribbon. To play games is the delight of the children, so put away all your handsome bric-a-brac or anything likely to be broken; for if a child should accidentally break a handsome ornament it would be unhappy during the remainder of the party.

Blowing bubbles is one of the most entertaining plays for children. A basin of strong suds is made from brown soap, and each child is given a clay pipe, with neat ribbons attached. The addition of a little glycerin to the suds will make the game easier. An ironing-board covered with cloth is placed on the backs of two chairs, one a little lower than the other. At the lower end of the board are fastened two upright pieces of wood, one on either side. This is the goal. Each player in turn dips his pipe into the bowl of suds, which is placed on a center-table, blows a bubble, drops it onto the upper end of the board, and then tries to blow it down the board through the goal. Each one of the players is allowed three chances, and the one who succeeds in blowing the most bubbles through the goal is declared the winner. A prize may be given to the winner or not, as you choose. Perhaps it would be best to let them play happily without the thought of a prize, for some children are quite sensitive and easily made unhappy by the failure to win.

Always have an older sister or friend to help the children start their games and make them feel comfortable. Mothers differ about their little girls being made to feel that it devolves upon them to make a success of their own little parties. Some believe it spoils the evening for the child to be burdened with the thought that it is expected to entertain. I differ (as many other mothers do) from this thought. It is a natural gift for some children in their own homes to be able to assume the role of entertainer. They look for the shy or unhappy little one and make it feel at home.

Children should be taught in their own homes to be unselfish, to think of others' pleasure before their own, and not to feel that they must have the nicest time at their own party. Such little hosts and hostesses when grown up will carry the manners so impressed and stamped upon their memories always; they will be loved by their fellow-

men, and by their acts will make the world happier. A little child lives only a short life often, leaving behind it many sweet memories.

The toilet is an important consideration. And while the child must be made to look as sweet as possible, the gown should be nothing elaborate—something plain and pretty. Remember, this party should be such that it will always be cherished in the memory of the children, as you, mothers, remember your first party.

The decorations, too, should be simple but pretty. Snow-balls were the decorations for the birthday party of the little girl mentioned above. They were the first pure white snow-balls, and were used in profusion—nearly everything possible being decorated with them. And the little girls fitting in and out among the trees on the green lawn were all dressed in white. The little boys were gallant and well-behaved. The young lady who helped the hostess played waltzes on the piano, and those of the children who cared to danced. However, most of them preferred to play such games as blowing bubbles, Boston stage-coach, etc.

Summer entertainments are enjoyed more by the children, and can therefore be made a greater success, especially during this the month of roses. Send out invitations on note-paper, as follows:

Mr. and Mrs. Holly Winter
wish you to attend a birthday party
in honor of Elizabeth's eighth birthday
Tuesday, June twentieth
from three to seven
Please answer

Such a party is not only charming to the little folks, but is enjoyed by the older ones present.

SARA H. HENTON.

THE KITCHEN CLUB—BREAKFASTOLOGY

"I've invented a new breakfast dish," proclaimed Dorinda from the housetop, so to say. She was on a chair in the pantry, fishing around for a lost jam-pot, but stopped and put her head out as Miss Tildy and Mrs. Tinkham, by some coincidence, loomed into the kitchen by the back door at the same instant. "I did it yesterday morning, and ever since have been keeping it in mind to spring on the first victim I should meet."

"Don't see what you want any special dishes for breakfast for," said Miss Tildy. "I never take anything but a cup of coffee and a slice of toast."

"No wonder she's thin," meditated Peggy Tinkham, audibly. "Give me a good dish of fritters and honey to begin with."

"Grease again! No wonder she's fat," retaliated Miss Tildy.

Dorinda jumped down from the chair and staved off a squabble by doing the talking herself.

"I have noticed a great many people either don't want much or don't think it necessary to have much for breakfast. I think that's a mistake, and have always imagined it was just as they got in the habit of doing, though I may be mistaken. But I have found out that I and all of my family want a good, substantial breakfast, and don't feel right unless we have it."

"Me, too," put in Peggy; "I like hot bread and preserves and fried cabbage, and Jim likes cold baked beans and pie."

"Well, I can't say that quite agrees with my ideas of a good breakfast," Dorinda observed, while Miss Tildy fanned herself with a sunbonnet, as if she felt a little faint.

"Although it ought to be substantial, breakfast wants to be different from other meals, in my opinion. Of course, a cup of good, hot, clear coffee is indispensable, with plenty of rich cream and white sugar; then some kind of warm bread—biscuits, batter-cakes or gems. I do not care about meat, but George wants it, so I think a good, juicy, broiled steak, or a platter of nice ham, or even some crisp, well-smoked and brownly fried rashers of bacon, about fill the bill; and some fresh-poached eggs go mighty nice with the last two. Speaking of poached eggs, I always poach them in milk instead of water, and they are ten per cent better. In the spring we like radishes and lettuce, and, of course, strawberries in season, and all fruit as it comes along. In the fall and winter we have baked pears and apples and canned fruit. We never care much about sweet stuff for breakfast, unless apple-butter or something like that. Oh, and I forgot the

potatoes; we always have them, usually baked or fried. When they're fried they ought to be crisp and brown, and come to the table piping hot, right off the stove.

"And speaking of potatoes brings me to my new dish. You needn't think you're going to escape that receipt. I had just cooked all the potatoes I had the day before yesterday, and we were a little tired of fried ones, so I thought I'd try something different. I took the cold boiled potatoes and chopped them in my chopping-bowl quite fine. I happened to have some dry cheese in the house, and I grated that into the chopped potato, moistened it well with rich milk, seasoned it with salt and pepper, and heaped it up in a buttered pan, put a little butter on the top, and browned it beautifully in the oven. When breakfast was over there wasn't an atom of that potato to be disposed of."

"I'll try it," said Miss Tildy, "but I'll make it for lunch instead of breakfast. I don't want anything but coffee and toast for breakfast."

"I'll try it, too," said Peggy Tinkham, "and I'll put onions in it. Jim likes onions."

"It's a wonder you don't make Jim an onion pie," Miss Tildy remarked, as she got up and tied on her black sunbonnet.

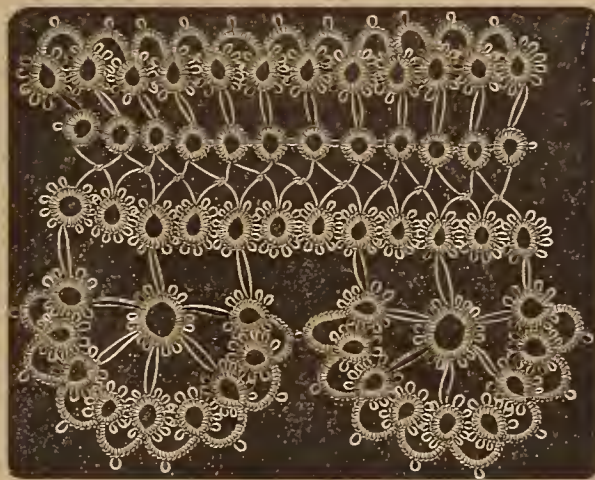
"Maybe I will try it sometime," Peggy responded, with a jolly laugh, as she hopped off the step and rolled herself away through the waves of sour-dock in the back yard.

PRISCILLA PIPER.

TATTED LACE

Make a ring of 1 d k (double knot), * p (picot), 2 d k, p, 2 d k, p (long), 2 d k; repeat from * 17 times; 1 d, close and break thread.

First row—Make a ring of 1 d k, * p, 2 d k, p, 2 d k, * 1 long picot, 2 d k, repeat from * to * twice; join to long picot of first ring, then repeat, making 5 small picots; 1 d k, close with two threads, * 7 d k, p, 7 d k, make another ring of 11 small p, joining to first ring at third p; repeat from *, joining this third ring to second at third p and to long loop of first large ring at sixth p. Continue until there are 9 rings. In making the ninth ring let the ninth p be a long one. This forms one scallop. The second scallop



is joined to first at p of little scallop made with two threads. Make the upper edge as follows: Make a ring of 11 p (small), joining to first long loop at sixth p, leave one half inch of thread, make another ring, joining to first ring at third p; repeat, but joining third ring at sixth p to next long loop.

Second row—Ring of 5 d k, p, 6 d k, long p, 6 d k, p, 5 d k, close; leave four inches of thread, tie securely to center of thread between rings of last row; one quarter inch of thread, repeat, joining these rings at small p.

Third row—This is made like outer edge of scallop, joining the rings together at third p, and to long loop of previous row at sixth picot.

MRS. JULIA A. WILLIAMS.

THE FIREPLACE IN SUMMER

An open, unadorned fireplace in the summer is anything but attractive, and yet as there are many days when a little fire is needed it is not advisable to have it closed or so decorated that it cannot be easily used. A large pan that will just fit and slip in under the grate, filled with wood's earth, moss and small wild plants, and kept constantly moist, will be a thing of beauty all the summer. A large pot of ferns or other greenery set in the grate will add to the effect and transform the homely black fireplace into a pretty decoration. When a fire is needed they can be easily removed, and again replaced when desired. If there is no grate, a long basket filled with hanging plants may be suspended in the fireplace with good effect. Wandering-Jew is a good plant for such a purpose. If plants cannot be obtained, a simple white curtain with a trail of

bright-hued nasturtiums embroidered in Asiatic wash embroidery-silks across the bottom and extending up one side is very dainty and decorative and will not interfere with the free circulation of air necessary for good ventilation, on account of which a fireplace should never be tightly closed.

CLARA SENSIBAUGH EVERTS.

DRUGGETS AND RUGS

Any home looks better for an assortment of rugs, picturesquely disposed. But rugs cost—handsome rugs handsomely—and very often the living-room or dining-room lacks that element of furnishing from motives economic; but from an educational point of view no household has a right to deprive itself of furnishings esthetic. And if these be added judiciously and slowly the expense will not be felt.

You can take your old worn ingrain carpets and make handsome rugs if you wish; even old Brussels may be worked this way; Cut the carpet into strips an inch in width, cutting with the chain. Then ravel out both sides, leaving but two or three threads of the chain in the center, to hold the remaining filling in place. Sew these strips together, wind in large, soft balls, and send to your weaver. He will weave them into rugs which have much the same effect as Smyrna, and at a very nominal cost, or if you prefer, a large drugget that can be used on your dining-room floor. Of course, you understand the correct way to treat your floor then is to paint it or stain it a deep rich walnut. Any dealer in paints can mix the paint or prepare the staining properly for you. It requires a portion of varnish to give it the right gloss, you know. Then with the drugget in the center of the room, and your dining-table on it, you have an artistic apartment.

Another way to get a nice collection of rugs is to watch the stores for remnants. These will be sold quite cheap in yard and yard and a half lengths. Then buy enough pretty fringe (it costs only fifteen cents a yard) to finish the ends. Never buy anything but Brussels (or better grades of carpet) remnants, as ingrain is not sufficiently heavy to make handsome rugs.

If you live near a large city you can watch the auction-rooms, and frequently you can find lovely carpets at prices so reduced you lose your breath. Here is an instance which is absolutely true. A handsome Brussels carpet with a border, of the finest texture and the most approved coloring and design, large enough to fit any ordinary-sized room, was recently sold, to my certain knowledge, for seventy-five cents. Incredible as it may seem, this is absolutely true. Besides, there wasn't a worn place in the carpet, it being as good as when removed from the store, with the exception of coal-dust which had settled upon it. Energetic scrubbing with hot water, soap and a brush soon rendered it bright as new. Such a sale as that might not occur again in years, but it illustrates what you may do for yourself if you watch. People should take advantage of all such opportunities.

A room furnished in Brussels presents a much richer appearance than one furnished in rag, and with pretty Brussels at thirty-five and forty cents, who cannot afford it? But if you can't afford Brussels, pretty ingrain are vastly more pleasing than home-made carpets. They really cost no more if you consider your dye, chain, time and expense of weaving, and are much handsomer.

If you cannot attend these sales yourself, get some friend who lives in a large city to buy for you. Pay them a commission if necessary, but furnish your homes artistically and esthetically. Enjoy the benefit of your toil while here. Don't hoard it away and leave it to others to squander (as they will in nine cases out of ten) what you have toiled and sacrificed to earn.

One parting word concerning home-made rugs. There is another style which, if your weaver is an up-to-date workman, he will know how to make. They are usually made from woolen rags, and they are woven in beautiful stripes and not a thread of the chain shows. When subdued colors are employed these rugs are very handsome.

MARGARET M. MOORE.

Our Summer Catalogue of Cut Paper Patterns shows the styles for 1899. Mailed free to all who ask for it. Illustrates new styles for waists, jackets, capes, dresses, gowns, skirts, shirt-waists, wrappers, blouses, petticoats, basques, little frocks, kilt dresses, aprons, underwear and toilets and garments of all kinds for all ages. Address FARM AND FIRESIDE, Springfield, Ohio.

GONE!

Gone!
 Ah, what a little word!
 Yet by its whispered tone
 What thoughts are stirred!

Gone!

What sound of deep abyss
 Can utter sadder moan
 Than word like this?

Gone!

What power to life can win
 From that word-sepulcher
 What sleeps within!

Heart,

So let thy days be spent
 That this word may impart
 A sweet content.

Gone!

Ah, what a little word!
 Yet, by its whispered tone
 What thoughts are stirred.
 —Alice Jean Cleator.

CHAT ABOUT THE SMALL FRUITS

THE stay of these fruits is so brief, their mission is so healthful, and in their canned or preserved state they make during the winter months such a pleasant break in the pie and pudding routine, that we cannot know too many ways of keeping them.

TUTTI-FRUTTI.—This is a very simple way to make what almost might be called a conserve, so rich is it and so long may it be kept. Choose a two-gallon butter-jar with a tight-fitting cover, and begin by putting in one cupful of cooking-brandy, one cupful of cut-up oranges and one cupful of granulated sugar. Let it stand a day or two, and then add two cupfuls of diced pineapple and two cupfuls of sugar. These fruits are not absolutely necessary, but being so juicy make a good beginning. Add from this time on such berries as you have, and for every cupful of fruit put in a cupful of sugar. Every time you add fruit and sugar stir up the mixture well from the bottom, and be sure to cover tightly. Of course, when the jar is full the brandy has almost entirely evaporated, and was only used as a preservative anyway. Some people use alcohol, as it is more volatile. In winter-time this makes a rich dessert with whipped cream.

The Germaus preserve many fruits by means of rich syrups or spiced vinegar. To prepare the syrup put three and one half cupfuls of sugar and two and one half cupfuls of water into a saucepan, and stir over the fire till the sugar is dissolved. After it has boiled five minutes, counting from the time it begins to bubble, it is of suitable thickness for your preserving. Put into pint jars the fresh fruit, filling about half full, then pour over the hot syrup. Stand these jars in slats or muffin-rings in a kettle half full of hot water, cover the kettle, and cook till the fruit looks clear. Remove the jars carefully, filling them full with syrup, and then cover tightly. Strawberries done this way resemble the Weisbaden preserved ones. Raspberries may be treated the same way, and cherries, stoned, are very rich.

Currants, red and white, may be preserved for winter pickles by laying the fresh fruit in large-mouthed jars, choosing only the finest bunches. Pour over them white vinegar, spiced by adding to each quart of vinegar one ounce of cinnamon, one ounce of mace, one half an ounce of cloves and two tablespoonfuls of sugar. While the vinegar is hot pour it over the fruit, and seal tightly. If the vinegar is too hot it bursts the skins. The currants retain their color, and a dish of them in midwinter is a treat to the eye as well as to the palate.

JELLIED FRUITS.—Sometimes if you have fruit going to waste this receipt is convenient: Put your fruit into a dish or mold. Soak half a box of gelatin in half a cupful of cold water, and then dissolve it in one cupful of boiling water. Add half a cupful of sugar, still stirring, the juice of half a lemon and one teaspoonful of sherry. Pour this over your fruit in the mold; serve cold with cream.

FRUIT-JUICES.—No. 1. Take one quart of the juice of any fruit and put it in a porcelain-lined kettle over the fire. When it steams stir in slowly three teaspoonfuls of arrowroot moistened in a little water. Cook till it is clear, then add half a cupful of sugar, or more if the fruit is acid. Serve in glasses with crushed ice. It makes a pretty course for a summer lunch.

FRUIT-JUICES.—No. 2. Pure grape-juice is said by medical authorities to be invaluable in either health or sickness. In fevers particularly doctors are using it more and more as both medicine and food. Oranges and pineapples make a delicious juice, but the small fruits are better yet, the little sour cherry becoming nectar under proper

treatment. The juice is crushed out of the fruit and kept chilled for two days. At the end of that time it is strained through a cloth and then boiled in a porcelain-lined kettle. Put it in bottles, filling up almost to the neck, and fill about half the space left with pure alcohol purchased from a druggist. Fit with a cork. The idea is that the alcohol evaporates in the air-space left and preserves the fruit, not mixing with the juice at all. Sweeten to taste and dilute with water or crushed ice when you serve. These juices may be kept through the winter, but are particularly grateful during the summer.

Blackberries, field or cultivated, have medicinal qualities which make them peculiarly valuable in bowel troubles, and may be treated in this way. All these fruits contain about seventy-five per cent of water and a small percentage of flesh-forming albuminoids and of malic acid. They are peculiarly useful in assisting digestion.

MRS. S. P. MOORE.

LITTLE GIRLS' BONNET

A close-fitting bonnet is so much more of a protection to a little girl and less in the way than a hat. This one is made of black velvet, with a black satin crown; the edge is bound with bias black satin, which can be relieved by a narrow valenciennes lace



in white, and black satin ribbon strings. If a light one is preferred, it can be of white marseilles for the front, with a white mull crown and any preferred color for strings.

Two of these bonnets are not an extravagance for a child, as often the dark one is more suitable. It can also be used to carry out an entire one-color costume.

Many children suffer from earache caused by riding in the wind, and a mother should be careful to provide against this. B. K.

SUGAR-SACKS IN A NEW ROLE

This is for my country sisters whose purses are suffering from chronic collapse. Of course, we all buy sugar now in five-pound-capacity cloth sacks. I was thinking one day, while looking at a pile of them which had accumulated, "what a pity they are not large enough to be useful in some other way, the cloth is so good," when an idea struck me. My husband and four young sons are farmers and "truckers," and do not mention the demand for handkerchiefs when the summer solstice is upon us!

"Store handkerchiefs cost like forty, or more likely sixty, by the dozen," quoth I, addressing the sugar-sacks, "and I think you might be made to fill the bill."

So, pulling out a stitch or two at the right end (where the last stitches by the machine are taken) I soon had a goodly lot of square pieces. The next step was to remove the printing, which can be done by saturating with strong soap-suds and coal-oil, letting them lie for awhile. After they were washed and ironed I lengthened my machine-stitch and proceeded.

As I was not making them for my own use or the babies', I decided one square would be too small, but that one and one half with the seam felled would be about right. For some, however, I used two whole ones (taking care to leave the selvedge where it would answer for a hem), thinking that when the boys came to me for a neck-shield—for old Sol isn't very merciful to the tender necks, neither is a high shirt-collar the most comfortable thing in summer-time—that the longer ones would be the best.

Then I fell to hemming, and am now rejoicing at the fact that when the "husband" has occasion to mop his heated brow there will be no lack of the wherewithal, and that the "cost price" was merely a little time and spool-cotton. They are not ornamental, but are extremely useful.

CORA AMANDA LEWIS.

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FOR 1899

SIZE OF BED, 36 by 76 INCHES

FREE This Handsome Hammock given FREE for a club of EIGHT yearly subscribers to the Farm and Fireside. See shipping directions below. You can easily make up a club of eight subscribers in one afternoon.

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NOTE—Thirty cents is the clubbing price for yearly subscriptions to the Farm and Fireside without a premium to the subscriber. But members of clubs may accept any of the premium offers and their names can be counted in clubs just the same. Renewals and new names, including a club-raiser's own subscription, can be counted in clubs.

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OUR SUNDAY AFTERNOON

THROUGH DEATH TO LIFE

Have you heard the tale of the aloe-plant
That grows in the southern clime?
By humble growth of a hundred years
It reaches its blooming-time;
And then a wondrous bud at its crown
Breaks into a thousand flowers;
This floral queen in its beauty seen
Is the pride of the tropical bowers.
But the plant to the flower is a sacrifice.
For it blooms but once, and in blooming dies.

Have you further heard of the aloe-plant
That blooms in the southern clime?
How every one of its thousand flowers
As they fall in the blooming-time
Is an infant plant that fastens its roots
In the place where it falls on the ground,
And fast as they fall from the dying stem
Grow lively and lovely around?
By dying it liveth a thousandfold
In the young that spring from the death of
the old.

Have you heard of the tale of the pelican,
The Arab's gmel el bahr,
That dwells in the African solitudes
Where the birds that live lonely are?
Have you heard how it loves its tender young,
How it toils and cares for their good,
How it brings them water from fountains afar,
And fishes the sea for their food?
In famine it feeds them what love can devise,
The blood of its bosom, in feeding them dies.

Have you heard the tale they tell of the swan,
The snow-white bird of the lake?
It noiselessly floats on the silvery waves,
It quietly sits in the brake,
It saves its song till the end of life,
And then in the soft, still even,
'Mid the golden light of the setting sun
It sings as it soars into heaven;
And the blessed notes fall back from the skies,
'Tis its only song, for in slung it dies.

Have you heard these tales, shall I tell you
one,
A greater and better than all?
Have you heard of Him whom the heavens
adore,
Before whom the host of them fall?
How he left the choir and anthems above
For earth in its wallings and woes,
To suffer the shame and pain of the cross,
To die for the life of his foes?
Oh, Prince of the nobles, oh, Sufferer divine,
What sorrow and sacrifice equal to thine!

Have you heard this tale, the best of them
all—
The tale of the Holy and True?
He died, but His life in untold souls
Lives on in the world anew.
His seed prevails and is filling the earth
As the stars fill the skies above.
He taught us to yield up the love of life
For the sake of the life of love.
His death is our life, His loss is our gain,
The joy for the tear, the peace for the pain.

Now hear these tales, ye weary and sad,
Who for others do give up your all,
Our Savior hath taught us the seed that would
grow
Into the earth's dark bosom must fall;
Must hide away and pass from view,
And then the grain will appear,
The seed that seems lost in the earth below
Will return many fold in the ear.
By death comes life, by loss comes gain—
The joy for the tear, the peace for the pain.

SICK-ROOM THOUGHTFULNESS

IT is only in extreme cases and at inopportune times that visitors are excluded from the sick-room—the tedium of confinement is relieved so much by the smiling countenance and cheery word of a friend. It may seem almost superfluous to offer any suggestions as to the means of making a call upon the sick acceptable, yet "often-times we do offend where most we wish to please." How many, even among those who are the promptest to discharge their duty in such cases, are so welcome that their return is awaited with eagerness?

The failure, or partial failure, of such well-meaning persons may arise from the fact that the sense of duty which has prompted the visit is allowed to make itself too apparent. Calling upon the sick is by no means the pleasantest of tasks, and it is not to be wondered at, perhaps, if the duty is sometimes put off until delay is no longer excusable.

If so much hesitancy is felt, a delicate dish or a few choice flowers, accompanied by a note kindly worded and delivered in person, will relieve the embarrassment and show the good wishes of the caller.

It is hardly necessary to say that in the

sick-room itself sympathy ought not to be carried to the point of evident anxiety. Courage and hope for a better day are what the sick one most requires, and the face of the visitor is sure to be scanned for a trace of disappointment or alarm. It is easy to inspire confidence by the look and by the grasp of the hand, and no medicine is better.

There is an easy manner, also, which is admirable in itself, and which relieves the constraint which the sick one may naturally feel in not being able properly to care for guests.

The outer wraps have of course been removed before entering the room, and it is not imperative to wait for an invitation to be seated. Above all, be seated comfortably. For a visitor to be or to seem uncomfortable is to insure the discomfort of the others in the room.

It is never admissible to sit on the edge of the bed or touch the bed in any way. The nervous organism is made over-sensitive by disease, and every jar is intensified.

Let the visitor draw as near the bed as possible without being in contact with it, sit where the features may be seen easily, listen attentively to every remark, sympathize with every complaint, and spin a bit of gossip or tell a little story. Then, when ten minutes have gone, let her pass softly out with a cheery good-by and a gentle caress, and there is every probability that the visit will prove a blessing and its repetition be eagerly awaited.—Sacred Heart Review.

HOW TO CLIMB STAIRS

Many people will be surprised to know that there is a scientific way of walking upstairs. A physician, in telling how it is done, says that usually a person will tread on the ball of the foot in taking each step. This is distinctly a bad practice; it wears and tires the muscles, as it throws the entire suspended weight of the body on the muscles of the legs and feet.

In walking up-stairs the point to be secured is the most equal distribution of the body's weight possible. The feet should be placed squarely on the step, heel and all, and then the work should be done slowly and deliberately. In this way there is no strain upon any muscle; but each one does its duty in a natural manner.

The practise of bending nearly double when ascending stairs is extremely pernicious. It cramps the lungs and makes the heart work harder. A slightly forward inclination is all that is necessary to make the method of going up-stairs above described a much less laborious task than it usually is.

GOD KNOWS

God knows all about you—the best and the worst of you. All your weaknesses, your struggles, your successes, your failures, your joys and your heartaches are open to the eyes of him with whom you have to do. As Dr. Mathews beautifully said in a recent sermon, "There are many woes in the British empire with which the good Victoria is unacquainted; but there is one throne against which every human perplexity beats in such a manner as to provoke a sympathetic response. If you are a sincere man, this thought cannot fail to be a source of comfort to you. Your fellow-man may pass you by without any notice at all, or if they deign to regard you, may misconstrue your conduct and misinterpret your character; but your Father in heaven will never suffer you to slip away from his observant eye nor judge you save in truth and tenderness. Be courageous, therefore, and confident in the midst of even your most trying difficulties.

SENTENCE SERMONS

The direst poverty is poverty of soul. The Sabbath is the savings-bank of life. The only way to have a friend is to be one.

He that would have the fruit must climb the tree.

It is better to be remembered in a good man's prayers than in a rich man's will.

That is not the best sermon that makes the hearers go away talking to one another and praising the preacher, but that which makes them go away thoughtful and serious, and hastening away alone.—The Watchman.

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"In Scotland, two years ago, I was first taken with sciatica in my limbs and I suffered untold agony. It kept growing worse, and I could neither sleep at night nor walk to any extent. I have taken I do not know how many kinds of both foreign and American medicines and have con-

sulted many physicians, but none of them have ever given me any relief. Two months ago I was told of the miracles of Dr. Swift's Rheumatic and Gout Cure, and in a week was free of all pains. In two weeks more I was cured. Not a pain or ache has since re-appeared. I sleep elegantly, better than I did before the affliction came. I thank heaven for Dr. Swift's discovery."

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MOTHER'S NERVOUS FIT

When mother has a nervous fit the children all stand 'round, And father says he wishes he was six feet under ground; He says it in a whisper, though, so mother cannot hear, For father knows that silence is the nearest kin to fear, And fear comes o'er us like a cloud, we are indeed hard hit When mother gets a-going on her reg'lar nervous fit.

When mother has a nervous fit the servants sometimes stay And stiek it out, but as a rule, they try to get away Before it's over with, and then, when we are high and dry, And father's living at the elub and we begin to cry, And things have gone from had to worse—Hooray! She's over it— For in a crisis mother always shakes that nervous fit.

T. M., in Truth.

WHAT IS A CATAMARAN

A KANSAS CITY paper gives this good story, which probably could be duplicated in any section, on the school children there. A teacher, having read to her pupils a description of the sinking of the "Merrimae," some days later asked what the word "catamaran" there used meant. These are some of the answers: Catamaran is a mountain-lion.

A catamaran is a savage officer in the Filippose islands.

A catamaran carries elubs in a gof game. A catamaran is the place in Chicago where the eat show was held.

The catamaran was a convention-hall prise. The catamaran is the proper name for a eat-boat and war-ram together like the "Catadin."

Hobson obtained a catamaran from the Spanish officers, which was all he had to eat.

"SUNSET" COX'S REPORTEE

A life of "Sunset" Cox, the famous Congressman from Ohio and New York, has been published by his nephew, the well-known scientist of the Smithsonian Institution. Here is an anecdote not new in its point, but memory-refreshing in the location of the phrase. His colleague in the House, the late General Roseerans, tells it:

"I remember one day some one of the other side, I forget his name, was making a strong pro-Chinese speech, winding up something like this: 'The Chinaman is clean, he is temperate, he is frugal; what fault have you to find with him?' Cox piped out, 'He wears his shirt outside of his breeches.' The house was crowded, and that was the last of that orator and his Chinese speech."—Pittsburg Dispatch.

HE OBLIGED THE JUDGE

In one of the New Orleans courts a negro was called as a witness.

The judge, who was noted for his austerity, held out the book, and the witness was sworn, being expected, of course, to kiss the book. But the witness was unused to eriminal proceedings.

"Why don't you kiss?" demanded the judge. "Sar?"

"Ain't you going to kiss?" again asked the judge.

"Sar?" repeated the astonished negro. "Kiss, I tell you," roared the judge.

"Yes, sar! yes, sar!" exclaimed the frightened negro, whose long arms were promptly thrown around the judicial neck, and a kiss was imprinted upon the judge's face instead of the book.

A GOOD REASON WHY

Little Sallie's socks were very short and left exposed a goodly portion of her infantile, mosquito-bitten legs. She sat demurely on a chair with her feet hanging dangling down, airing her best company manners, when the big eol-le pup came up. Seeing in her knees a delectable morsel he began to caress them playfully with his young teeth. Sallie shrank from him, struggled to draw up her brief socks, and explained:

"I don't like your dog very much, because, you see, I've got my low-necked stockings on!"

DENIAL

Mama—"Robby! Robby! Is this an lnk-spot on the library carpet?"

Robby (hastily)—"An lnk-spot? No, indeed, mama! Not if I got it there."—Judge.

"LORD, SHE WAS THIN"

A man, recently left a widower, when arranging for his late wife's tombstone, gave orders that the lettering should be of a stated size. At the bottom of the stone he wished to have the words, "Lord, she was thin." The stone-mason said he was afraid there would not be room for the words, but the bereaved widower insisted, and the carving was put in hand. The correctness of the mason's view was justified, for when the stone was finished at the foot of the tablet were the words, "Lord, she was thin."—London Chronicle.

FEMININE LOGIC

"That's a lovely new silk waist you have, my dear. What did it cost?"

"Fourteen dollars. Isn't it cheap? George said I might have it if he won his election bet."

"How much did he win?"

"Seven dollars."

"But the waist cost fourteen."

"Yes, I know. The extra seven will teach George the folly of betting."—Cleveland Plain Dealer.

"ON SPANIEL"

A negro who recently came over to Georgia from Cuba, and speaks English but imperfectly, became involved in a quarrel with a native colored citizen, whom he referred to as an "African."

"T'ank de Lawd," replied the Georgia negro, "ef I is Afikin, I ain't no Spaniel; en what's mo', I ain't no dam black Phillistine! I kin speak Nunited States—I kin!"—Atlanta Constitution.

HIS BRIGHT IDEA

A literary man in Boston has a son who is to him as the apple of his eye. The other day he noticed a square hole in the trousers of his well beloved—a shrieking hole just above the knee. "How is this?" asked the sire. And the boy replied, "You know, I have two pairs—my best and the other. I couldn't tell them apart, so I cut a hole in the best, and now I can tell 'em and know which to put on."

HEREDITY

Loving mother—"I cannot understand what makes our boy Robert so fond of pedestri-anism."

Fond father—"He gets that from me. Didn't I walk the floor with him for weeks when he was a baby?"

A USELESS EXPENSE

"Let me sell you an enyclopedia," said the book-agent to Throekmorton. "It is the best in the market; contains—"

"I don't need an encyclopedia," replied Throekmorton. "I am married to a Boston woman."

FAMILIAR WITH AGRICULTURE

"Whoop!" said Robbic, as a little green snake crossed the path, "there goes a piece of fresh hay looking for a new place to grow."

LITTLE BITS

Customer—"I'm sure I've seen you somewhere. I never forget a pretty face."

Waitress—"I don't remember you, and I never forget a fresh customer!"

A certain editor was taking a walk one evening with his wife, when she, who was somewhat romantic, and an admirer of nature, said:

"Oh, Augustus, just notice the moon."

"Can't think of it, my dear, for less than twenty cents a line. Our space is very limited."

Ambitious maiden—"It's just too mean for anything! The editor sent my beautiful and pathetic story back without reading it."

Fond mother—"Dearie me! How do you know?"

Ambitious maiden—"I've looked all through every page and there isn't a tear-drop anywhere."—New York Weekly.

Several ladies sat in one of the Colonial club parlors a few evenings ago discussing the virtues of their husbands.

"Mr. Bingleton," said one of them, referring to her life partner, "never drinks, never swears, nor does he chew."

"Does he ever smoke?" some one asked.

"Yes; he always likes a cigar just after he has eaten a good meal. But I suppose that on an average he doesn't smoke more than once a month."

Some of her friends laughed, but she didn't seem to understand why.—Cleveland Leader.

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MISCELLANY

Many persons supposed to have been far gone in Consumption, have been completely cured with Jayne's Expectorant.

THE voice of a woman is audible in a hall-oon at the height of about two miles, while that of a man has never reached higher than a mile.

A DECIDED novelty in the way of newspaper enterprise is announced from Lapland. The first paper in that country has appeared. It is written upon a single sheet of paper, and is published every Sunday at a town with an unpronounceable name. Up to the present the journal has only half a dozen subscribers, and every issue is welcomed with loud applause.

A FURNITURE-POLISH which may be made at home, and which is reliable, needs for a foundation half a pint of linseed-oil. This should be hoiled and put into a pipkin, two ounces of yellow wax, cut in thin shavings, being added. Set the pot in a saucepan of boiling water until the wax is thoroughly melted, then strain through muslin, and stir constantly until cool. Add a quarter of a pint of spirits of turpentine and a quarter of a pint of vinegar; mix thoroughly, and bottle.—New York Evening Post.

PRESERVING WOOD

A curious by-product of zinc is chlorid or salts of zinc, which formerly went to waste, but now is used as a wood preservative by railroads, bridge-builders and dock-builders, and for the protection of shingles, clapboards, pillars and any other wood that is exposed to moisture or influences that cause decay. The salts of zinc, in solution, by hydraulic pressure are forced into the pores of the wood, which is then soaked in a strong solution of tannin and glue. The ties and piling now used on the Santa Fe and Southern Pacific and other western railroads are treated in this manner. The railway companies named use from 3,000,000 to 4,000,000 pounds a year each. With this treatment a pine tie, which is the only kind that can be found out in the mountain country, will last three times as long as one of oak.—Chicago Record.

NATIONAL EDUCATIONAL ASSOCIATION MEETING

For the meeting of the National Educational Association at Los Angeles, Cal., July 11-14, 1899, the Union Pacific will make the greatly reduced rate of one fare, plus \$2.00, for the round trip.

The excellent service given by the Union Pacific was commented on by all who had the pleasure of using it to the convention at Washington in 1898. This year our educational friends meet in Los Angeles, and members of the Association and others from points East should by all means take the Union Pacific.

The service of the Union Pacific via Omaha or Kansas City is unexcelled and consists of Palace Sleeping-cars, Buffet Smoking and Library Cars, Dining-cars, meals a la carte, Free Reclining-chair Cars and Ordinary Sleeping-cars.

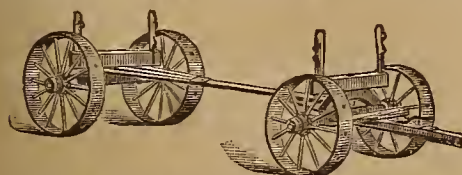
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HECTOGRAPH AND INK

Glycerin, four parts; water, two parts, and gelatin, one part. The gelatin is immersed in the water till it is all absorbed; the glycerin is then added and the whole is heated on a water-bath till solution is effected; pour in a shallow tray and allow to solidify. Special care should be taken to avoid bubbles in pouring. Aniline copying-inks are used; as a sample we give the violet hectograph ink, as follows: Methyl-violet aniline, two parts; spirit, two parts, and water, six parts.—Duval M. Choudrich, in Popular Science News.

FARM WAGON FOR ONLY \$19.95

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Co., Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, sold at the low price of \$19.95. The wagon is only 25 inches high, fitted with 24 and 30 inch wheels with 4 inch tire.



This wagon is made of best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

COST OF ELECTRIC COOKING

A kettle of one and one half pints can be kept in service for an hour for 2.56 cents; a two-chop griller, if used right along, will cost 4.48 cents an hour, or \$1.06 for the cooking of the two chops. A two-quart saucepan can be kept in operation for an hour for 3.2 cents. A sixteen-quart fish-kettle will cost 9.12 cents an hour, and a domestic iron will cost 1.6 cents worth of electrical energy in the same time, or about a quarter of a cent for one ironing.

REMOVING IRON-RUST ELECTRICALLY

A simple and effective way of cleaning rusted iron articles, no matter how badly they are rusted, consists in attaching a piece of ordinary zinc to the articles, and then letting them lie in water to which a little sulphuric acid has been added. They should be left immersed for several days, or a week, until the rust has entirely disappeared, the time depending on how deeply they are rusted. If there is much rust a little acid should be added occasionally. The essential part of the process is that the zinc must be in good electrical contact with the iron. A good method is to twist an iron wire tightly around the object and connect this with the zinc, for which a remnant of a battery zinc is suitable, as it has a hindering-post. Besides the simplicity of this process, it has the advantage that the iron itself is not in the least attacked as long as the zinc is in good electrical contact with it. When there is only a little rust a galvanized iron wire will take the place of zinc, providing that the acid is not too strong. The articles will come out a dark-gray or black color, and should then be washed thoroughly and oiled. The rusted iron and zinc make a short-circuit battery, the action of which reduces the rust to iron, this action continuing as long as any rust is left.

THE CONSTITUENTS OF A MAN'S BODY

A German scientist, with the infinite patience of his nation, has been working out a series of calculations as to what man's body really contains. According to him, all the constituents of the body of a man of ordinary size might be contained in twelve hundred hens' eggs. Or, to put it more specifically, there is enough iron in a man's body to make seven large nails, enough fat to make six and one half kilograms of candles, enough carbon for sixty-five gross of pencils, and enough phosphorous to tip eight hundred and twenty thousand matches. Add to these twenty teaspoonfuls of salt, fifty lumps of sugar, and forty-two liters of water, and you have all the constituents of a man's body.—Pall Mall Gazette.

WOMEN OUTLIVE MEN

Professor Buchner states that it is possible for a woman to preserve her youthful beauty even to an old age, or, in some instances, to regain it. The Marquise of Mirabeau died at eighty-six with all the marks of youth in her face. Margaret Verdun, at sixty-five, smoothed out the wrinkles, her hair grew again and her third set of teeth appeared. The professor has still further hope for the fair sex in the announcement that women

live longer than men. One French woman, Marie Prioux, who died in 1838, was said to be one hundred and fifty-eight years old. Statistics of the various countries on this point are remarkable. In Germany only 413 out of 1,000 males reach the age of fifty; while more than 500 of 1,000 females reach that age. In the United States there are 2,583 female to 1,398 male centenarians. In France, of ten centenarians seven are women and only three men. In the rest of Europe, of twenty-one centenarians sixteen were women.

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A beautiful and happy girl. With step as light as summer air, Eyes glad with smiles, and brow of pearl, Shadowed by many a careless curl Of unconfined and flowing hair; A seeming child in everything, Save thoughtful brow and ripening charms, At nature wears the smile of Spring When sinking into Summer's arms.

In Beautiful Colors MEMORIES Size, 10 by 20 inches
Premium No. 730

This is a very rich and handsome picture, the subject of which is taken from the poem of the same title, by the late John Greenleaf Whittier, America's king among poets. A reading of the first verse of the poem will give a better description of the picture than any other pen dare attempt. The inspiration of the poet seems to have been caught by the artist. The figure of a sweet and lovely girl standing among trees and beautiful flowers, bathed in soft rays of sunlight and holding in her hand a cluster of roses, makes a picture that is a veritable poem in colors.



In Beautiful Colors THE MILL Size, 10 by 20 inches
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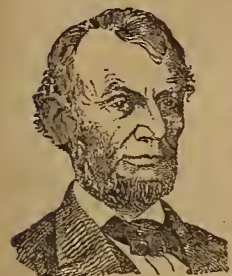
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She went to the barber's,
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No. 958. By R. L. Stevenson. When an author's works live after him, they are, as a rule, worth reading. The stories by Stevenson have stood this test, and are now widely read. "The Merry Men" is a story that you will not forget soon after reading it.

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No. 974. A book containing a series of sermons, by the Rev. T. De Witt Talmage, about his recent and noted travels through Palestine, telling what he saw and learned there. They make such delightful reading, and are so instructive and entertaining, that the book is immensely popular. On the days he delivered these sermons in his church in Brooklyn, which seated 4,500 people, thousands were turned away from the doors for want of standing-room inside the church. Even to read the book makes one thrill through and through.



SELECTIONS

HOW CUBANS LIE

IT is often hard to tell whether a Cuban lies to you from ignorance or malice, says Herbert Pelham Williams, in the June "Atlantic." On ordinary occasions and about matters that do not promise to affect or benefit himself he is fairly truthful; but he seems to know no reason why he shouldn't tell a lie if he wants to. To the average Cuban who has always lived on his own island a lie is a thing to tell whenever it will serve any useful purpose—such as getting him out of a scrape, or securing an advantage, or getting money out of somebody, or conciliating some one, or creating a good impression. Here the absence of a moral sense becomes apparent. With the Cuban lying is not a matter of right, but of policy, his short-sightedness preventing him from perceiving that to-day's advantage may be to-morrow's loss. The statement, common among Americans who have lived in Cuba, that the Cubans are all liars is much nearer the truth than most generalizations. Though they usually tell the truth, nearly all of them dissimulate or equivocate whenever they see occasion. Hence it is not always easy to tell what a Cuban thinks or how he feels about the future of the island. He sometimes tells you what he thinks you want to hear. Every man of property wants Cuba to be under American control, but he will not admit it before a crowd, or even to another Cuban, unless convinced that he, too, is heartily in favor of it. The trait appears likewise in accounts of the Cuban army. However, it is only fair to say that the glowing descriptions given by the Cubans of the performances and the glorious victories of that somewhat mythical force are not intentional, deliberate, cold-blooded lies. Carried away by imaginations as fertile as the soil of the island, they actually believe their own monstrous inventions. For, after all, the Cuban loves better than all other things on earth to strike an attitude, to pose, to strut and brag, and make himself out a great man and his gentle fellow-islanders a great nation.

Thousands of Cubans really believe that there was once a hand of men worthy to be called a Cuban army, and that they fought battles. Others admit that there were merely little companies of starving stragglers, who sometimes fired their two cartridges apiece from ambush at Spanish scouting-parties, and then scattered. But they all think they did great execution. Get some American or Englishman who was with them to tell you his view of it. It will be discouragingly different. Cuba is infested with "after-the-war" soldiers, braggadocio mock heroes who never got within earshot of fighting.

SEA-BOTTOM TEMPERATURE

The surface and bottom of the ocean, as is generally understood, differ materially in temperatures. All known observations of deep-sea temperatures have been arranged on equal projection maps, from which it is estimated, states Sir John Murray, that over ninety per cent of the sea-floor is occupied by water cooler than forty degrees Fahrenheit, three per cent being under thirty degrees, while on the 127,100,000 square miles deeper than a hundred fathoms no annual variations of temperature have been observed, except possibly at the line of meeting of the Gulf Stream and Labrador currents. On the 10,100,000 square miles of ocean between the shore and a depth of a hundred fathoms, the bottom temperature shows annual variations. A study of the surface waters leads to the estimate that over the entire ocean the area warmed to more than forty degrees is never less than seventy-five per cent of the total, even in the coldest months, while it rises to eighty-seven per cent in the hottest part of the year.—Rochester Democrat and Chronicle.

DATE-GROWING IN THE SOUTHWEST

If present advices are correct another important industry, that of date-growing, will shortly be inaugurated in this country. Through the efforts of the Agriculture Department the date-tree of Algiers has been successfully transplanted and successfully acclimated in Arizona, and the beginnings of another profitable industry have thus been made. It is predicted that in a few years American orchards will supply the entire home demand for dates.

It would seem that not only Arizona, but New Mexico, the "staked plain" region of

Texas and considerable patches in California and the Indian Territory afford the peculiar conditions of soil and climate necessary for the date. It does not appear to thrive in regions where the humidity is so great as in our Gulf states. A single tree yields from 100 to 400 pounds of dates per annum. The fruit contains fifty-eight per cent of sugar, which largely accounts for its keeping qualities, it being easily kept for several years.

"Since foreign packers began to pay more attention to cleanliness and neatness in putting up the fruit for the American market it has become far more popular than formerly," says "The Pioneer Press," of St. Paul. "With the reduction of price which will naturally follow the substitution of a home-grown for an imported product there will doubtless come in time improvements in the methods of cultivation and in the quality of the fruit similar to those which have been witnessed in the case of the orange. The next generation of Americans will probably eat better dates at a lower price than have ever been known outside of Persia and Arabia."—Bradstreet.

RISING WAGES

The first quarter of 1899 has been marked by a considerable increase of wages in some of the most important American industries. At a moderate estimate there must be three hundred thousand wage-earners who are earning more wages at the beginning of April than they were receiving at the beginning of January.

The advance has been most general in the cotton-mills. The Fall River manufacturers set the example and were followed by those of one city after another, until the number of New England cotton operatives whose wages were advanced was from seventy-five to one hundred thousand.

Higher prices and an active demand for iron and steel products have made possible a general increase of wages among iron and steel workers. Among the coal-miners of West Virginia, Alabama and some other states; among the copper-miners in Michigan; among the tin-plate workers, and in other industries, the daily papers have recorded numerous advances of pay.

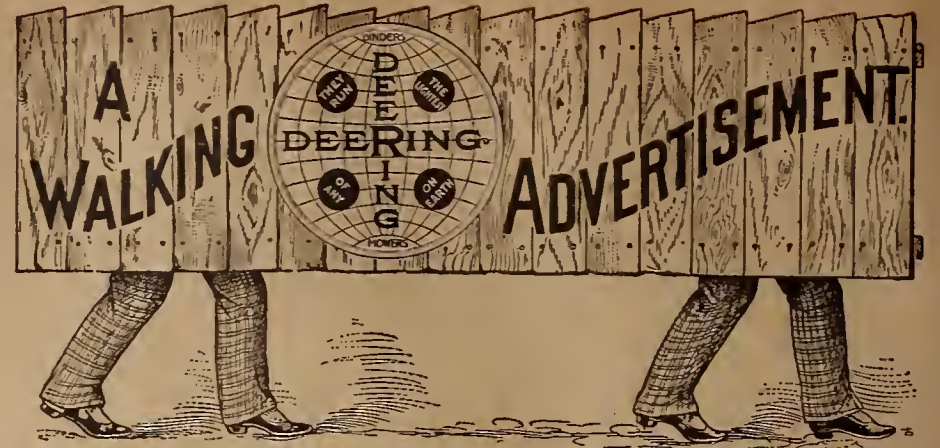
Rising wages are a good barometer of business prosperity. They not only indicate prosperity, but they help to make it by increasing the purchasing power of large numbers of people. In Fall River, for example, the addition of more than twenty thousand dollars to the weekly pay-roll involves a considerable stimulus to local trade in all departments, and that is felt, in turn, by wholesalers and manufacturers. The same thing holds good in other communities. As the great majority of adult Americans are wage-earners in one capacity or another, conditions which make better wages possible are an occasion for national congratulation.—The Youth's Companion.

MARRIAGE IN PORTO RICO

Marriage is almost unknown among the very poorer classes, and the distinction of having the written word and the blessing of the priest carries with it no special badge of honor; it is suggestive only of another poor man gone wrong and a grasping padre a few pesos richer. It is a much easier matter for a man to select his companionable partner and set up housekeeping in a new wickiup under the banana-trees without more ado.

A legal marriage by license has less in it which meets approval in the native mind than that performed by a church functionary, for the padre might always save them from hell, while the nation's sanction is absolutely a barefaced robbery. General Grant one day gave hearing to a much-agitated man who stated that the priest would not marry him to the woman he loved without excessive fees, and he prayed that his excellency would order the erring father to marry him at a rate commensurate with the size of his pocketbook. The general sorrowfully told him that he could not pretend to interfere with the church rulings, even though his sympathies were aroused, and suggested he be content with the legal form which met all the lawful needs of our own country, and pay the small fee to the civil authorities. The man glared at him and disappeared; the manifest cupidity of American officials was beyond his power to express in words.—Harper's Weekly.

There are 180,132 Indians, besides the 5,318 in New York, and the 77,018 of the "civilized tribes."



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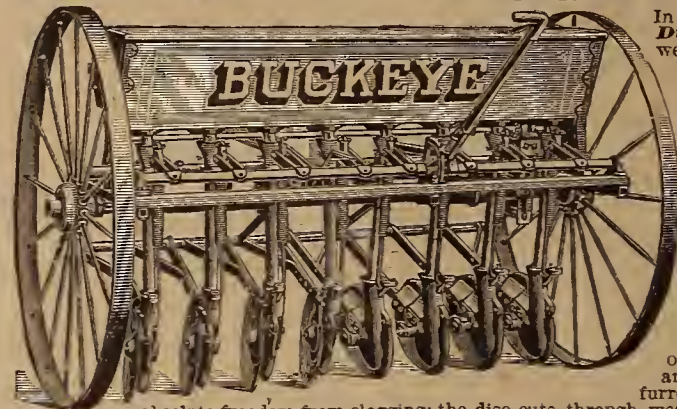
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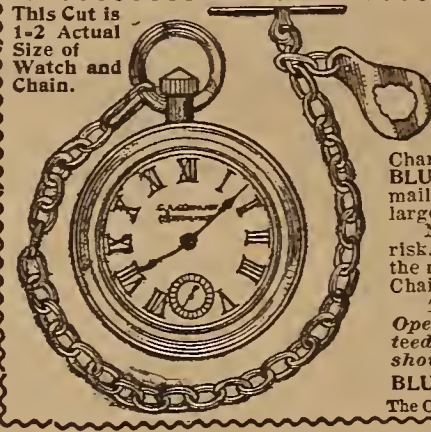
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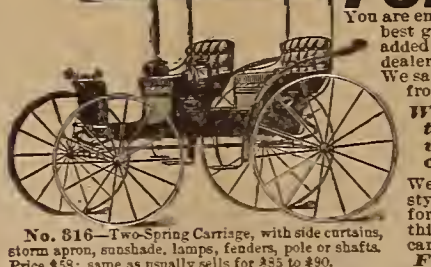
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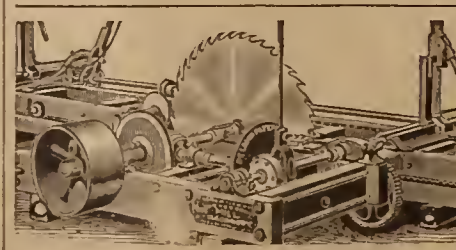
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